

Naginder Kaur
Mahyudin Ahmad *Editors*

Charting a Sustainable Future of ASEAN in Business and Social Sciences

Proceedings of the 3rd International
Conference on the Future of ASEAN
(ICoFA) 2019—Volume 1

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Chapter 1

Developing the Framework Model in Teaching and Learning Al-Damīr Based on the Sequence of Students’ Acquisition in Arabic Language Curriculum



Ummi Syarah Ismail, Nazri Atoh, Majdah Chulan, Abdul Basir Awang,
and Ahmad Tahir Hamid

Abstract This study aims to develop a framework to design a model in teaching and learning *al-damīr* based on the sequence of students’ acquisition in Arabic language curriculum. Undoubtedly, the teaching and learning models in Arabic language have expanded. However, these models still had not been able to overcome students’ difficulties in acquiring the Arabic language, especially in grammar aspect. This is because most of the models are too general and are not able to identify the difficulties in acquiring Arabic language among students. Consequently, it contributes to students’ failure to understand Arabic language effectively. The researchers have conducted a test in sentence constructions among 205 UiTM Perlis Malaysia students who took Introductory Arabic III in order to develop this framework model. Group Score Method (GSM), which was introduced by Dulay and Burt (Lang Learn 23(2):245–258, 1973) and Krashen (Mod Lang J 1(67), 1982), was used to design this descriptive quantitative study. The findings revealed that there were clear difficulties among students regarding *al-damīr* acquisition sequence. Therefore, the implementation of the *al-damīr* framework based on this sequence model is a new innovation in the field of Arabic grammar and is expected to contribute to the Arabic language education curriculum. It is also important for the academicians to develop an established Arabic curriculum. Furthermore, this study will also contribute to the development of systematically teaching and learning Arabic language that will give a positive impact in Arabic pedagogy in order to enhance students’ understanding and overcome their difficulties in learning *al-damīr* Arabic language.

Keywords Development · Model · Sequence · Acquisition · *Al-Damīr*

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1.1 Introduction

There is a difference between *al-damīr* or pronoun in Arabic and Malay language. Among the differences, there are many categories of *al-damīr* in Arabic language, while in Malay language there are only three categories. There are categories of *al-damīr* in Arabic by number (العدد), i.e., *mufrad* (مفرد), *muthannā* (مثنى), and *jama'* (جمع). For example, *al-damīr* “هو” (he) for *al-damīr mufrad* (singular), “هما” (both of them) for *al-damīr muthannā* (dual), and “هم” (all of them) for *al-damīr jama'* (plural). There are also categories of *al-damīr* by genus, i.e., *mudhakkar* (مذكر) and *mu'annath* (مؤنث), for example, *al-damīr* “هو” (he is for men) and “هي” (she is for women).

There are also differences between *al-damīr al-munfaṣil* (المنفصل) (detach pronoun) and *al-damīr al-muttaṣil* (المتصل) (attach pronoun) which differ from the aspect of its use in the verse. For *al-damīr al-munfaṣil* (المنفصل) (detach pronoun), it is used as a subject (مبتدأ) in the example sentence “هو مدرس” (he is a teacher). If *al-damīr* is not in the position of the subject or not at the beginning of the verse, *al-damīr al-muttaṣil* (attach pronoun) is used, for example, “مدرسه جميل” (his teacher is beautiful). This distinction also affects the students in learning Arabic *al-damīr*. This is because the category of *al-damīr* mentioned is not in Malay language. The difference between *al-damīr* categories in Arabic and Malay language is very clear, as shown in Figs. 1.1 and 1.2.

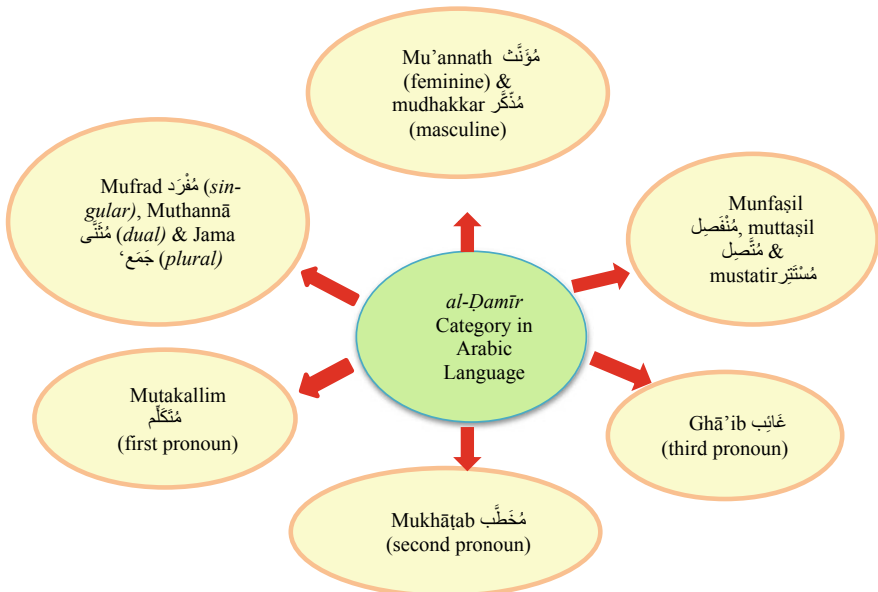


Fig. 1.1 *Al-Damīr* category in Arabic language

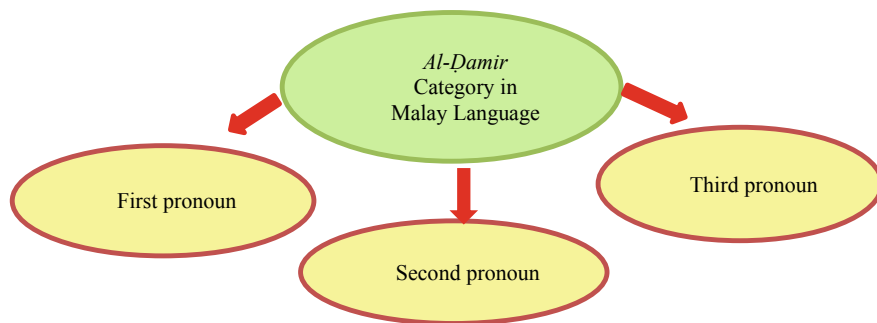


Fig. 1.2 *Al-Ḍamīr* category in Malay language

This can be seen through the findings of previous studies such as studies, conducted by Ismail et al. (2014) and Normila Norudin. Norudin et al. (2014) found that students were still weak using *al-ḍamīr* in sentences. Mohd Nor (2000) stated that the percentage of students' mistakes in *al-ḍamīr* usage was high. Among the highest students' mistakes were the mistakes of using *al-ḍamīr* in the verb position, *ḍamīr al-jarr* (genitive) in the noun position, and *al-ḍamīr al-munfaṣil* (المنفصل) in the case of accusative (منصوب).

Mat (2000) stated that most students were still weak in the mastery of *al-ḍamīr*, especially *al-ḍamīr al-bāriz al-muttaṣil*, *al-ḍamīr al-mustatir*, *al-ḍamīr al-ghā'ib*, and *ḍamīr al-naṣb*. His research also found that the use of *al-ḍamīr al-munfaṣil* was easier than *al-ḍamīr al-muttaṣil*. Students were found to have failed to use *al-ḍamīr* which was appropriate according to Arabic grammar, such as using *ḍamīr al-raf'* (*munfaṣil*) at *ḍamīr al-jarr (muttaṣil)* position as “أشترى لأنن هذا المأكولات” (I buy for all of you this food.) (Ismail @ Yaakub et al. 2012). Therefore, based on this problem, a model of teaching and learning that is appropriate with the students' ability is necessary to facilitate teaching and learning in Arabic language.

1.2 The Sequence of Acquisition of *Al-Ḍamīr* in Arabic Language

The sequence of acquisition of Arabic *al-ḍamīr* means the sequence of *al-ḍamīr* is highly used and rarely used. Highly used means it is easy to use, while rarely used means it is difficult to use. Dulay and Burt (1974) explain the acquisition of grammatical structures and formulas for second language students is in natural order and predictable. This is because according to Chomsky, biologically a human being has been endowed with the ability to acquire language naturally, and this is known as universal grammar (natural grammar). Chomsky states that a human has been endowed with innate mechanism (called language acquisition device/LAD) which is

a tool that receives input that determines what needs to be mastered first like sounds, words, and others (Cook 1988; Jumhana 2014; Guat 2006).

The development of this model is based on the previous studies which stated some of the grammatical structures are obtained in sequence either earlier or otherwise (Krashen 1982; Bahrani 2011). This is because there are grammatical structures that are easy to master and there are some difficult to acquire (Abukhattala 2012). The previous language researchers have done much research on the acquisition of a second language or foreign language based on the order itself or morpheme acquisition order (Kwon 2005; Dulay et al. 1982; Ellis 1994, 1997).

The sequence of morpheme acquisition has existed from the 70s to the 80s and widely done in language studies, especially in English (Izumi and Isahara 2004). However, studies on morpheme acquisition in the field of Arabic grammar, were difficult to find. There were studies on mastery in the field of Arabic grammar but they did not examine the order of morpheme acquisition. Arabic grammar studies have touched many aspects of students' mistakes and comparative studies.

Izumi and Isahara (2004), Dulay et al. (1982), and Ellis (1997) stated that the study of this sequence is important because language learners need to know the order or sequence of language structure proficiency. By having this knowledge, it helps the educators and academics to develop a curriculum in a more complete sequence of instruction. Moreover, it further helps to develop more effective teaching methods or approaches as well as to enhance the understanding and to reduce students' mistakes in learning (Kwon 2005).

1.3 Population and Sample

The population refers to a group of subjects that have the same characteristics or specific criteria determined by the researcher. The sample of the study was a group of subjects taken from one population. This study used a stratified sampling procedure. Creswell (2008) described a coordinated random sampling strategy (strata) was used when the researchers divided (stratify) the population based on specific characteristics or differences. Then, simple random sampling was carried out for the sample selection from each subgroup of the population, while Piaw (2011) stated that sampling of random sampling strategies refers to the heterogeneous sampling framework, for instance, subjects of various types or sub-samples such as race gender and so on.

Therefore, the study population consisted of Bachelor's Degree students at UiTM Perlis who took the Introductory Arabic III course from September to January 2018 semester. Before taking the course, these students were required to enroll in Introductory Arabic I course and Introductory Arabic II course. The students who had the basic knowledge of Introductory Arabic I and II courses were selected to enroll in the course. There were 437 students who had taken Introductory Arabic III in the

September–January 2018 semester. These students were selected from four different faculties: Faculty of Architecture and Planning, Faculty of Business, Faculty of Applied Science, and Faculty of Computer Science.

The sample size was taken based on Krejcie and Morgan (1970) who explained that if the population is 440, then the appropriate sample size is 205. Therefore, the sample of respondents involved in the study was 205 students from a population of 437 students. The selection of sample study was based on the following criteria:

- i. Students from the ages of 20 to 24 years.
- ii. Students from different faculties.
- iii. Students from different years of study.
- iv. Students who had the knowledge of basic Arabic language.

1.4 Limitation of This Study

This study focuses on the order of acquisition of *al-ḍamīr*. Therefore, the sentence construction test is focused on the basic topics of Arabic as given below:

- i. *al-ḍamīr al-munfaṣil* (المنفصل) which only involves *ḍamā'ir raf 'munfaṣilat* (ضمائر رفع منفصلة) as a subject (مبتداء) in the sentences.
- ii. *al-ḍamīr al-muttaṣil* (المتصل) which only involves *ḍamā'ir naṣb muttaṣilat* (ضمائر نصب متصلة) as an object (مفعول به) in the sentences and *ḍamā'ir jarr muttaṣilat* (ضمائر جر متصلة) as possessive pronouns.
- iii. The sentences consist of subject (مبتدأ) and predicate (خبر). The basic structure of subject and predicate of the sentence is the single sentence of the noun (NP) and the predicate of a single noun (NP) and noun subject sentence (NP) and the predicate verb (VP).

1.5 Research Design

To further strengthen the development of this framework model, researchers conducted sentence-building tests to students aimed at identifying the sequence of acquisition of Arabic *al-ḍamīr*. This study was conducted using descriptive quantitative design. The test instrument for sentence constructs, Group Score Method (GSM), introduced by Dulay and Burt (1973) and Krashen (1982) was used in order to obtain the data. The frequency of proper use of *al-ḍamīr* in the compulsory (obligatory) context was calculated in GSM. The expectation score for each *al-ḍamīr* was identified by the number of times it appeared in the mandatory context. An appearance was obtained with a score of two points. For example, if there are 12 *al-ḍamīr*, it means the score is 24. Next, the learners' score was calculated based on the number of

Table 1.1 Score category

Student use category	Score
Correct	2
Incorrect (omission of a <i>al-ḍamīr</i>)	0
Inaccurate (an erroneous <i>al-ḍamīr</i>)	1

times the correct *al-ḍamīr* was incorrectly used. When *al-ḍamīr* was used correctly, two points were given, and if an erroneous *al-ḍamīr* was used, one point was given, while for the omission of a *al-ḍamīr*/rudimentary type of error, 0 point was given. An example of this analysis technique can be seen in Table 1.1.

Score points will be calculated as follows:

$$\text{Score } al\text{-}\dot{d}am\bar{r} = \frac{\text{Learning Score} \times 100}{\text{Expectation Score}}$$

Expectation score = frequency of *al-ḍamīr* in obligatory context \times 2 and learning score = correct number used \times 2 + incorrect number \times 0 + less accurate number \times 1.

After the data have been collected through the GSM formula, the researchers analyze the data using IBM SPSS statistical software. The results of the data analysis can identify the highly used and rarely used sequence of *al-ḍamīr* acquisition.

1.6 Findings and Discussion

The findings of this study are the results of data analysis from the tests given to students who evaluated the highly used and rarely used sequence of *al-ḍamīr al-munfaṣīl* and *al-muttaṣīl*. It can be seen in Table 1.2.

Based on Table 1.2, the findings of the study show that the first order of acquisition of the students is *ḍamā'ir raf' munfaṣīlat* with a mean score of 87.70, followed by *ḍamā'ir jarr muttaṣīlat* with a mean score of 34.35, and the latter is *ḍamā'ir naṣb muttaṣīlat* with a mean score of 19.80. This means the students found that it was

Table 1.2 The *Ḍamā'ir Munfaṣīlat* and *Muttaṣīlat* score

<i>Ḍamā'ir</i>	N	Mean	Standard deviation
<i>Ḍamā'ir Raf' Munfaṣīlat</i> score	205	87.70	16.82
<i>Ḍamā'ir Jarr Muttaṣīlat</i> score	205	34.35	27.74
<i>Ḍamā'ir Naṣb Muttaṣīlat</i> score	205	19.80	23.76

easier to use *ḍamā'ir raf 'munfaṣilat* than *ḍamā'ir jarr muttaṣilat* and *ḍamā'ir naṣb muttaṣilat*. However, *ḍamā'ir naṣb muttaṣilat* is the most widely used.

Hence, based on the results of the study presented above, it can be summarized as follows:

- i. Students feel easier to use *ḍamā'ir raf 'munfaṣilat* than *ḍamā'ir jarr muttaṣilat* and *ḍamā'ir naṣb muttaṣilat*.
- ii. Students are more likely to use *ḍamā'ir jarr muttaṣilat* than *ḍamā'ir naṣb muttaṣilat*.

1.7 Framework Model

The findings of the study show that a model of *al-ḍamīr* teaching and learning framework is based on the sequence of students' acquisition. It can be seen from Fig. 1.3.

Fig. 1.1 shows that the teaching and learning process of *al-ḍamīr* is based on the first and the last sequences. Early sequences are introduced or learned first. In this study, the findings show that *ḍamā'ir raf 'munfaṣilat* should be introduced before *ḍamā'ir jarr muttaṣilat* and *ḍamā'ir naṣb muttaṣilat*. Next, students need to be introduced to *ḍamā'ir jarr muttaṣilat* and how to use them in sentences. On the other hand, *ḍamā'ir naṣb muttaṣilat* should be introduced after the students have well-mastered *ḍamā'ir raf 'munfaṣilat* and *ḍamā'ir jarr muttaṣilat*. Next, students should be given more input on *al-ḍamīr* and its use in sentences to enhance students'

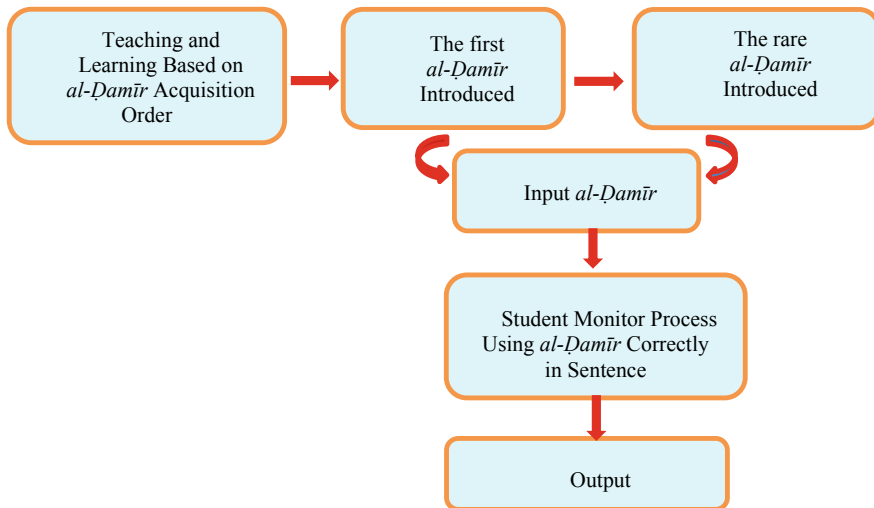


Fig. 1.3 Model of *Al-Damīr* teaching and learning framework based on student acquisition order in Arabic language curriculum

understanding and mastery in learning. Through the process of monitoring, students can distinguish *al-ḍamīr* and its use in the sentences correctly. Brown (1994) and Krashen (1982) explain that the monitor can alter system output or results obtained before and after the oral or written utterances. The monitor will appear in one's mind to determine whether to use the *mudhakkār* or *mu'annath* nouns in the verse (Setiyadi and Salim 2013).

1.8 Conclusion

A model of *al-ḍamīr* teaching and learning framework based on the sequence of students' acquisition was established. This model is a new innovation in Arabic language education. It can provide guidance to Arabic researchers, educators, and academicians to develop a curriculum in the order of *al-ḍamīr* which corresponds to students' abilities of learning Arabic. In addition, it can impact the pedagogues in developing a more effective teaching method or approach to enhance the understanding and reduce students' mistakes in Arabic *al-ḍamīr* learning. Although the study focuses on the title of *al-ḍamīr*, this model is also suitable for other Arabic grammatical titles. Through this framework model, a systematic procedure in the implementation of pedagogy in Arabic grammar is shown.

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Chapter 2

Unifying Social Media APIs to Sustain Quality English e-Learning



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Abstract Today, e-learning has been considered as a contemporary approach in managing classes beyond the ordinary traditional classroom. Some educators have struggled to explore and adapt such an approach in their teaching, especially in selecting materials that suit not only the subject matter experts but also the learners. Meanwhile, self-learning is not only recommended but also considered to be the next best option for students. However, finding the right source of content for both the educators and the learners is challenging. Consequently, social media feeds are considered as they can be used to attain materials for teaching and learning. On that basis, this paper aims to use social media content as e-learning materials in teaching and learning English. A prototype was developed to unify all recognized cumulative contents on Facebook, Instagram, YouTube and Twitter in a single web application. The social media feeds in the prototype were generated from the application programming interface (API) service and have been used as supplementary materials to the learning and teaching of English. To assess this approach, 35 respondents of UiTM Perlis Branch were asked to identify the perceived usefulness (PU) and perceived ease of use (PEOU). The results showed that the prototype not only can provide an additional source of materials to learn English but also had a good interactive design to the users. Nevertheless, there were some indications that the prototype needed to be improved to increase its effectiveness on the teaching and learning of English. Eventually, using social media API in providing English teaching materials has the potential to assist educators and learners in reducing the gap while embracing a contemporary approach to education.

Keywords Application programming interface · e-learning · English language · Social media

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2.1 Introduction

Students have been acknowledged as digital natives who possess cognitive skills in the digital platform through online collaborative features in Internet-based application (Qi 2019). According to Schmidt and Brown, a combination of online and traditional classrooms could improve the quality of a teaching and learning environment (Schmidt and Brown 2004).

The existence of online classrooms has transformed the outlook of learning and teaching. One of the elements that has been affected greatly is the learning and teaching content of the classroom. The reliance on the traditional sources of content has been found to limit the dynamics of the classroom. This has led to the call on the use of more dynamic materials in the form of social media content.

Generally, social media content can also be incorporated in the learning of English using e-learning platform. Social media applications or social network sites (SNS) which are regularly known as Web 2.0 applications allow Internet users to create and exchange their content in the written, graphic, audio and video forms in an informal manner (Schmidt and Brown 2004; Kaplan and Haenlein 2010). The applications are accessible and shared to the public at regular intervals. The total followers or like clicks will be used as a rating factor to determine the popularity and the effectiveness of the content. This kind of rating enables social media users to choose the best content for their learning. Nevertheless, due to the richness of content, there is a need to refine social media content as a preferred reference for the learning of English (Kaplan and Haenlein 2010).

Social media contributes to a new pedagogy known as Pedagogy 2.0 (Mcloughlin and Lee 2010). According to Farkas, Pedagogy 2.0 changes the classroom styles to a 'student-centred' approach where students take the initiative to interactively learn (Farkas 2012). Social media applications as teaching and learning tools also consent the students to become prosumer of knowledge (Mcloughlin and Lee 2008; Tess 2013).

The use of social media, to a certain extent, is supported by social constructivism theory (Qi 2019). According to this theory, the learner and the teacher play an active role in teaching and learning. The interaction through social media can assist the learners in the construction of knowledge. This is compounded with the idea that the learners will be interacting and negotiating not only with their teachers but also with their peers. On that basis, the use of social media can help students to learn certain topics better.

According to Bai, English educators must improve their practices by searching for a new teaching model, exploring the strategic method and achieving an effective English learning (Bai 2018). Using e-learning, they may be able to develop a new style of learning with varieties of online materials. However, this can probably lead to issues in relation to the usefulness and ease of use of e-learning materials. Therefore, this study attempts to answer the following research questions:

- a. What is the perception on the usefulness of the prototype?
- b. What is the perception on the ease of use of the prototype?

2.2 Methodology

2.2.1 Prototype Development

E-learning prototype known as ENGENIOUS was developed for English e-learning using application programming interface (API) in Facebook, YouTube, Instagram and Twitter. It is a web-based application composed of four main English learning pages: writing, listening, speaking and reading.

The API is a dedicated computer programme which functions as a mediator to furnish metadata for third-party application so that it can read, store and manipulate digital traces of social media users (Lomborg and Bechmann 2014). All the APIs from the SNS were embedded in the prototype based on the related account or pages.

Facebook API Facebook API is known as Graph API. It is the primary method to get data and information from and beyond the Facebook platform. It is an HTTP-based API that enables the applications to automatically query data, transfer photographs, manage advertisement, post new stories and perform a variety of other tasks. For the purpose of this study, the contents from many Facebook pages were retrieved.

To start with, Graph API was registered as a developer account in the Facebook Developer site. The developer was granted permission to use many types of Social Plugin. To get the Facebook Page content, Page Plugin was applied. Page Plugin would generate the API code for each of the inserted Facebook Page's URL. The code was embedded with the prototype to display the page content. Figure 2.1 depicts the generated code.

YouTube API YouTube Data API V3 is a YouTube API that gives access to YouTube information, for example, playlists, videos and channels. The YouTube Data API is incorporated on the YouTube site into developer site or application.

To use the API, a registered developer can access the Google API Console. Using the console, an API Key is requested and a token is given to access an individual channel. In this study, YouTube videos were used as the content for the prototype.

```
<div class="single-blog-area mb-100 wow fadeInUp" data-wow-delay="250ms"
<iframe src="https://www.face-
book.com/plugins/page.php?href=https%3A%2F%2Fwww.facebook.com%2FGram-
marUpdates&tabs=timeline&width=3500&height=500&small_header=false&adapt_con-
tainer_width=true&hide_cover=false&show_facepile=false&ap-
pid=2199110550401892"width="850" height="500" style="border:none;overflow:hidden"
scrolling="no" frameborder="0" allowTransparency="true" allow="encrypted-me-
dia"></iframe>
```

Fig. 2.1 Facebook API code

The videos were listed using Playlist ID. Playlist ID was required to generate the code for the prototype. Figure 2.2 shows the generated API code.

Instagram API Instagram Graph API is part of the Facebook Developer site which allows the developer to automatically connect to the Instagram accounts. It effectively manages media, views metadata and comments and gets experiences with custom-assembled applications. In Instagram, the developer is known as a Manual Client.

The API requires authentication of the requests made on behalf of a user. The authenticated request requires an access token. However, the access token is only valid for a certain period. To embed Instagram page, the API code is generated when a username is inserted. Figure 2.3 displays the generated Instagram API code embedded in the prototype.

Twitter API Account Activity API is a simple Twitter platform for developer. The registered developer inserts the URL of the Twitter page to generate the embedded code. Figure 2.4 depicts the API code for the prototype.

```
<div class="single-blog-area mb-100 wow fadeInUp" data-wow-delay="500ms">
<iframe src='https://www.sociablekit.com/app/embed/index.php?embed_id=23035'
frameborder='0' width='100%' height='500'></iframe>
```

Fig. 2.2 YouTube API code

```
<div class="single-blog-area mb-100 wow fadeInUp" data-wow-delay="250ms">
<iframe src='https://www.sociablekit.com/app/embed/index.php?embed_id=23039'
frameborder='0' width='100%' height='500'></iframe>
```

Fig. 2.3 Instagram API code

```
<div class="single-blog-area mb-100 wow fadeInUp" data-wow-delay="500ms">
<a class="twitter-timeline" href="https://twitter.com/londongram-
mar?ref_src=twsrc%5Etfw" data-width="850" data-height="500">Tweets by londongram-
mar</a>
<script async src="https://platform.twitter.com/widgets.js" charset="utf-8"></script>
```

Fig. 2.4 Twitter API code

2.2.2 Prototype

The prototype was developed as a web application. It contained six pages (main page, writing page, listening page, speaking page, reading page and about page) that can be linked using the top-right menu as shown in Fig. 2.5. To discuss English e-learning, the writing page, listening page, speaking page and reading page were included for the embedded API code to retrieve the social media contents.

The Learning Pages In this prototype, four pages (writing, listening, speaking and reading) were embedded with predefined social media APIs. All the contents were selected based on the title in the social media accounts or pages. Table 2.1 describes the total number of social media content on each page.

Figure 2.6 represents the look of social media contents in the learning page.

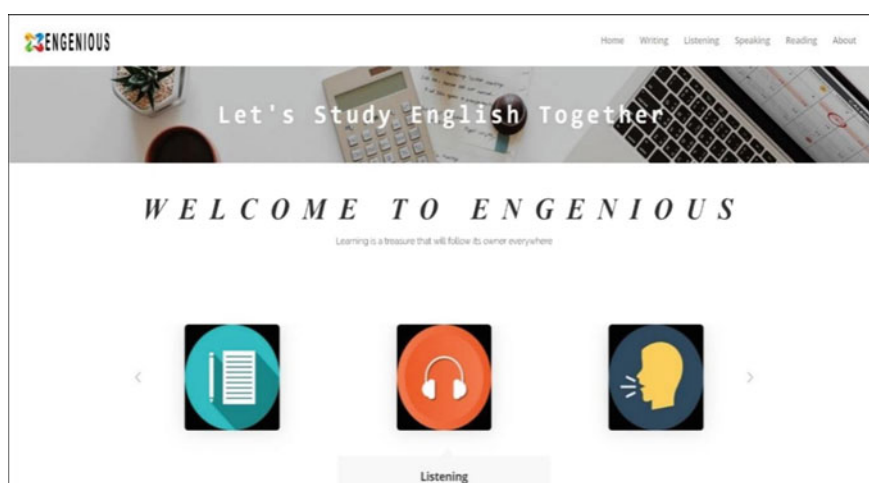


Fig. 2.5 Main page for ENGENIOUS (Abdullah 2019)

Table 2.1 Number of SNS contents in the learning pages

Learning page	Facebook	Instagram	Twitter	YouTube
Writing	5	1	6	1
Listening	5	2	4	1
Speaking	8	1	3	1
Reading	7	1	3	1

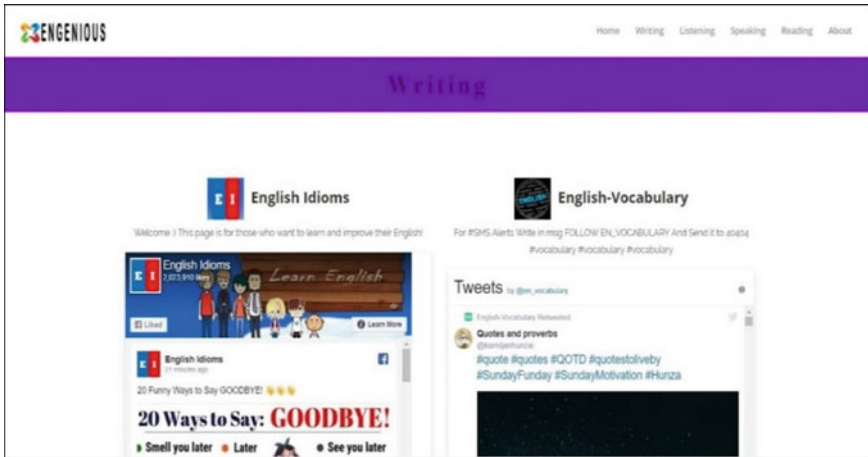


Fig. 2.6 The arrangement of social media contents in page writing (Abdullah 2019)

2.2.3 Prototype Evaluation

In order to identify and explain the factors that affect the acceptance level of integrating social media content in English e-learning application, technology acceptance model (TAM) was used. TAM is a common theoretical framework to explain and predict technology acceptance behaviour in e-learning (Abdullah et al. 2016). Perceived usefulness (PU) and perceived ease of use (PEOU) are the two variables in TAM. PU was used to identify the level of effectiveness of the application while PEOU measured the level of users’ rating on the ease of use of the application (Abdullah et al. 2016; Davis 2013).

Evaluations were conducted on 5 lecturers and 30 students of UiTM Perlis Branch during the March–July 2019 semester. Two types of questionnaires based on PU and PEOU were used to collect the result from the users as shown in Table 2.2. The respondents responded according to the Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree).

Table 2.2 PU and PEOU questionnaires

<i>Perceived usefulness (PU)</i>	
1	Using ENGENIOUS enables me to retrieve English learning material quickly
2	Using ENGENIOUS improves English learning material retrieval performance
3	Using ENGENIOUS increases users’ productivity
4	Using ENGENIOUS enhances my effectiveness in retrieving English learning material

(continued)

Table 2.2 (continued)

5	Using ENGENIOUS makes English learning material retrieval easier
6	I find ENGENIOUS a useful e-learning tool
<i>Perceived ease of use (PEOU)</i>	
7	Learning to operate ENGENIOUS is easy for me
8	I find it easier to get ENGENIOUS to do what I want it to do
9	My interaction with ENGENIOUS is clear and understandable
10	I find ENGENIOUS to be flexible to interact with
11	It is easy for me to become skilful at using the ENGENIOUS
12	I find ENGENIOUS easy to be used

2.3 Result

This section discusses the perception of the respondents on the usefulness of the prototype as well as on the ease of use of the prototype.

2.3.1 Prototype Evaluation

The prototype was evaluated by 35 respondents. Tables 2.3 and 2.4 show the average score of the respondents of each scale and mean for each question for PU and PEOU, respectively.

From the PU and PEOU evaluations, it can be found that an average number of the respondents fairly accepted that the ENGENIOUS was useful and friendly in providing learning material for the e-learning of English.

The result of the respondents who indicated their disagreement would be significant in improving the product.

2.4 Discussion and Conclusion

The literature showed that students and SNSs have established a good relationship in embarking new social cognition of learning through Internet technology. The use of e-learning has become the catalyst of change for both educators and students as they approach teaching and learning. It also led to wider opportunities for educational institutions to innovate their approaches in disseminating information to their students. At the same time, the richness of information offered by social media can fill the gap in supplying teaching and learning materials. The ubiquity of social media

Table 2.3 PU result

Perceived usefulness		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Average score
1	ENGENIOUS enables me to retrieve English learning material quickly	–	5	27	3	–	2.94
2	ENGENIOUS improves English learning material retrieval performance	–	4	7	21	3	3.66
3	ENGENIOUS increases users' productivity	–	3	19	8	5	3.43
4	ENGENIOUS enhances my effectiveness in retrieving English learning material	–	4	16	12	3	3.4
5	ENGENIOUS makes English learning material retrieval easier	–	1	14	15	5	3.69
6	I find ENGENIOUS a useful e-learning tool	–	5	13	11	6	3.51
Average							3.44

content allows English courses to use e-learning platforms that could be more interactive for students and, at the same time, provide opportunities for English educators to improve their teaching skills.

Scholars found that the APIs are the mediators to retrieve social media metadata from SNSs. Theoretically, it can incorporate e-learning and social media content from SNS platforms. The regular interval feed from related social media users can be retrieved in real time and can enrich the materials for the classroom. The customization of APIs in e-learning development has managed to retrieve and accumulate

Table 2.4 PEOU result

Perceived ease of use		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Average score
1	Learning to operate the ENGENIOUS is easy for me	–	6	13	10	6	3.46
2	I would find it easy to get ENGENIOUS to do what I want it to do	–	4	9	19	3	3.6
3	My interaction with ENGENIOUS is clear and understandable	2	3	10	15	5	3.51
4	I find ENGENIOUS to be flexible to interact with	–	4	7	17	7	3.77
5	It is easy for me to become skilful at using the ENGENIOUS	–	2	11	16	6	3.74
6	I find ENGENIOUS easy to use	–	2	18	10	5	3.51
Average							3.60

related content in a single application. Thus, this can reduce the hassle for educators and students to use social media content for learning and promoting a more conducive learning.

In this paper, e-learning based on social media content prototype has been developed. The prototype used the contents from Facebook, Instagram, Twitter and YouTube in a single web-based application for English learning. The API codes were embedded in the prototype according to the English learning categories, such as writing, listening, speaking and reading.

Evaluations based on the PU and PEOU were conducted involving educators and students. The result literally showed that respondents generally accepted that the prototype can provide English learning materials using social media contents. The design of the prototype seemed to be user-friendly. As for the PU result, the identification of the social media contents from the accounts or pages may not be related or interesting to the respondents. As for the PEOU result, the presentation of

the menu and content needed to be improved so that they would be more interactive and easy to be used.

Based on the preliminary study, a survey is suggested to be done to identify the preferred social media accounts or pages among the respondents. The result can be used to update the APIs in the prototype.

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Chapter 3

Drop Shipping Business via Instagram: An Epidemic Model Approach



Noorzila Sharif, Siti Nur Aisyah Abu Bakar, and Ku Azlina Ku Akil

Abstract In business, a dropship or an agent is an intermediary between suppliers and customers where he/she will get the commission or profit from markup price through the online selling. A dropship does not own any stocks or products for the business but takes possession in the business distribution process. Meanwhile, viral marketing is a marketing technique that induces social media users to spread detailed information about a certain product or service. This technique is very powerful since it takes a very short time to reach potential customers. Instagram is one of the effective social media platforms in providing a good environment for disseminating information by using image posts. However, the effectiveness and the strength of certain promotion for every product that has been posted on Instagram are uncertain. Some might go viral and some might not. The purpose of this study is to investigate the dynamics of drop shipping business through Instagram in a given period of time. The epidemic model being applied in this study consists of a system of three differential equations with three state variables, namely the number of followers, the number of people reach the contents, and the number of people stops visiting the profile. The parameters involved are the message transmission rate between the reachable followers and the registered followers and the recovery rate between the reacted followers and the reachable followers. The data was collected from the dropship Instagram account, *babykids.branded_shoppe*. There are four categories of products: attire set, dress, shoes, and backpack. Each product has several items. The attire set, dress, shoes, and backpack consist of nine, five, six, and three items, respectively. The solution of the model was obtained using MATLAB software. The results showed that message transmission reaches its peak within 2 days. The value of the basic reproduction number shows that a few items were viral among Instagram followers.

Keywords Epidemic model · Instagram · Drop shipping business · Viral marketing

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3.1 Introduction

Before the existence of Internet, social media was all about television, radio, newspapers, and magazines. The concept is a one-way communication where a sender delivers a message to a receiver but nothing flows back to the sender. The purpose of this type of communication is to provide information or to entertain but cannot interact. After the presence of Internet, the social media platform turns to Facebook, Twitter, Instagram, and others. The aim of this type of social media is to create a two-way communication between individuals, communities, and organization. Thus, this type of communication is very essential in business purpose.

An online business, which is also known as e-business, is a business where the transaction is conducted through social media. In business, intermediaries are external groups, individuals, or firms that link the supplier to the customers. They can be categorized into four which are dropship (or agent), wholesaler, distributor, and retailer. A dropship will get the commission or profit from markup price through online selling. A dropship does not own any stocks or products for the business but he/she takes possession in the business distribution process. Most of the time, people join a drop shipping business when a product is trending. For them, it is an opportunity to grab while the product is on high demand. However, there are some people who join the business because of their interest in the products, their hobby, and friends or family's suggestion or due to other people's business that seems interesting and get high profit all the time.

An individual dealing with an online business applies viral marketing as a technique to spread or to forward the marketing message to online customers. The materials to be viral are usually in many formats such as video type, messages, pictures, and songs. This marketing strategy concentrates on users of social media. Whenever the customer receives the message, they may share the message, and hence influence others to spread the message until it becomes viral (Leskovec et al. 2007). The increasing usage of broadband and Internet services leads to an increasing trend for viral marketing (Shashikala and Mahapatro 2015).

Nowadays, Instagram is a trending social media platform that is made for sharing photos and videos and also for directing message from a smartphone. Like other social networking platforms, Instagram also enables a user to see other user's posts that will be displayed in their news feed if they follow the person; otherwise, the posts will be displayed in discovery. Among all the features that Instagram can provide for boosting a business account are hashtags, Instagram stories, highlight, and Instagram ads (Marks 2018). A popular technique that is usually being used to personify their brand is the branded hashtag. It is like a common language or style for captions in their every post. It allows people to stay connected with the community that has the same interests and then engage with potential customers. Even though Instagram is one of the effective social media platforms in providing a good environment for disseminating information by using image posts, the effectiveness and the strength of certain promotion for every product that has been posted on Instagram are uncertain. Some might go viral and some might not. Thus, the study needs to be conducted so

that the promotion reaches the goals of marketing. The main objective of this study is to investigate the dynamic of drop shipping business through Instagram. This study provides advantages to the marketers especially those who have no experience in the business. They are able to predict the appropriate time to post the product category, especially during festive seasons. This also let them to know the impact of every post of the product according to the time. Thus, the marketers can identify the customer's preference and demand and increase the sales with greater audience's attention.

3.2 Literature Review

The population dynamics underlying the diffusion of idea and opinion is of not much difference to disease infections (Bettencourt et al. 2006). The infection of disease starts when a person is infected and is spread through contact. Thus, when an individual has a contact with an infected person, she or he will become infected. When there is an absence of the susceptible or infective, this infection process will stop. The study applying the mathematical theory of epidemics has been inspired by W. O. Kermack and A. G. Mc Kendrick in 1927. The population is divided into three groups which are the susceptible, the infective, and the recovered. The susceptible are those who are not infected and not immune; the infective refers to those who are infected and actively transmitting the disease. The people who have been infected and are immune to the diseases are called the recovered. The model is known as the Susceptible-Infected-Recovered (SIR) and has been extensively used for modeling of infectious diseases, such as dengue (Asmaidi et al. 2014; Side and Salmi 2013), tuberculosis (Kalu and Inyama 2012; Side et al. 2017), and Ebola (Baujakjian 2016; Rachah and Torres 2012).

The SIR model has also been remarkably applied in the field of network and informatics. The observation on online social networks, viral marketing, audience applause, and diffusion of ideas has been conducted to investigate the rumor spreading and to explore the influence of the rumors (Cannarella and Spechler 2014; Zhao et al. 2013). The SIR model is used to mimic the key properties of spreading cascade in a file-sharing process on peer-to-peer networks. Besides, this model is also applied to understand the spreading mechanism of computer viruses to create a powerful antivirus software (Rodrigues 2016).

Viral marketing has been categorized as the stealth of a marketing strategy. The electronic word of mouth is able to help a company to have the lowest cost of promotion, a rapid increase in the business credibility, increased visibility toward the market, and improved format flexibility (Eckler and Rodgers 2010). Epidemic model in marketing is a viral message where the message being sent and received widely from person to person is transmitted by the target market (Gardner and Weaver 2013).

The posting action from the Internet forum users will affect instant infection and reaction to other users (Woo and Chen 2012). When a user begins a conversation or uploads a status, he or she becomes infective. The users who have an interest in the

topic that will read and post comments on the status are called susceptible. Some of them will post another status about the same topic. Hence, this will influence other people with information from their posts. At a certain time, the possibility of some users losing interest and stop joining the topic discussion can happen. Therefore, this will reduce the power of infection to others.

3.3 Methodology

3.3.1 Data Collection

The data was collected from the dropship Instagram account, *babykids.branded_shoppe*. The dropship business deals with kid's fashion wear and accessories. There are four categories of products: attire set, dress, shoes, and backpack. Each product will be available in a different week. One product for each week. The first week of this study started with attire set and followed by dress in the second week. For the third and fourth week, shoes and backpack have been uploaded.

Each product has several items. The availability of the items for each product might be varied. The attire set, dress, shoes, and backpack consist of nine, five, six, and three items, respectively. The numbers of items uploaded on a particular day might be one, two, or three. Sometimes, none of the items are available. The starting time to upload the items is set to be at 8:30 a.m., as soon as the item is available. If more than one item available, the items will be uploaded separately one after another.

The data was monitored in insights option on Instagram. In insights option, there are three categories, which are activity, content, and audience. Instagram provides weekly data showing information on those three categories. For activity, the data provided are interaction type and discovery type. In interaction type, there are profile visits and website clicks. Website clicks are the link of the phone number that has been clicked by the customers. For those who are attracted by the posts, they will go to the profile as recorded in profile visits. In discovery, the data provided are reach and impressions. Reach denotes to the number of people in the unique account who see the contents in the post. However, not all of the followers are interested to see every content being posted. An impression refers to the total number of time that all posts have been seen no matter it was being clicked or not. For the content category, the data being shown is the total number of feed posts, stories, and promotions. For audience category, the number of followers, top locations, age range, gender, and the average time the follower is on Instagram are being provided.

The average time (in hours) that the followers spend their time on Instagram and the highest number of followers active per day are stated in the follower's insight. Thus, the peak time (day) can be obtained. The followers comment for all the posts in a week is known as interaction. The content is being delivered to someone's feed.

Table 3.1 Information on the products posted on the dropship Instagram account, babykids.branded_shoppe

	Attire set	Dress	Shoes	Backpack
Items post	9	5	6	3
Number of followers	21,033	21,219	21,349	21,449
Profile visits	4	11	21	10
Website clicks	1	15	7	5
Reach	2146	2251	2076	2011
Impressions	7472	9687	8419	7317
Interaction	75	5	10	10

A user could have multiple of impressions for a single piece of the content being posted on Instagram. The data is listed in Table 3.1.

3.3.2 Data Analysis

In the context of the drop shipping business, the Instagram population has been divided into three groups: the number of followers (S), the number of people who reach the post (I), and the number of people who stop visiting the profile (R). The number of followers in the first group refers to those who do not reach the post yet. Once the followers reach the post, they will be categorized in the second group. Here, the followers might at least see the post and forward the post to another user. The followers who are interested in the post will end up visiting the profile to seek further information. Once the interaction is complete, the follower is expected to leave the profile. These users are considered in the third group.

Those three groups are illustrated in Fig. 3.1.

Parameter β represents the infectivity that partially controls the transmissibility of the number of followers who receive and forward the posts to the number of people who reach any post. Parameter γ indicates the recovery state of people who reach the content of transmission to people who have done or stopped visiting the profile. The other parameters involved in this study are listed in Table 3.2.

Let

$S(t)$ be the number of followers at time t ,

$I(t)$ be the number of people who reach the post at time t , and

Fig. 3.1 An illustration of the Instagram population for drop shipping business

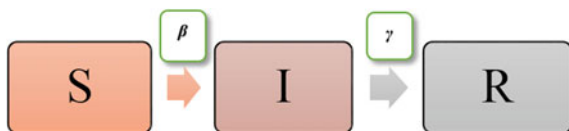


Table 3.2 Parameter and description

Parameter	Description
D	Duration of promotion to be stopped
τ	Carrier state which is given by the ratio of the number of followers and the number of people who reach the posts
ρ	The contact rate among followers per period of time
Q	The number of interaction

$R(t)$ be the number of people who stop visiting the profile at time t .

The total Instagram population N at time t is fixed and is given by

$$N(t) = S(t) + I(t) + R(t). \quad (3.1)$$

This study assumes that the decreasing rate in the number of followers is equivalent to the product of the number of followers and the number of people who reach the posts. Thus, the reduction in the number of followers per period is as follows:

$$\frac{dS(t)}{dt} = -\beta S(t)I(t). \quad (3.2)$$

This study also assumes that the rate of change of people who are done visiting the profile is proportional to the number of people who reach the posts. Hence, the change in the profile visits is given by

$$\frac{dR(t)}{dt} = \gamma I(t). \quad (3.3)$$

Since the total population is constant, differentiating Eq. (3.1) gives

$$\frac{dN(t)}{dt} = \frac{dS(t)}{dt} + \frac{dI(t)}{dt} + \frac{dR(t)}{dt} = 0. \quad (3.4)$$

The change in the size of the number of people who reach the posts can be written as

$$\frac{dI(t)}{dt} = -\frac{dS(t)}{dt} - \frac{dR(t)}{dt}, \quad (3.5)$$

or

$$\frac{dI(t)}{dt} = [\beta S(t) - \gamma] I(t). \quad (3.6)$$

Thus, the dynamics of each group as time evolves is governed by the following system of differential equations:

$$\begin{aligned}\frac{dS}{dt} &= -\beta SI, \\ \frac{dI}{dt} &= (\beta S - \gamma)I, \\ \frac{dR}{dt} &= \gamma I,\end{aligned}\tag{3.7}$$

subject to the initial conditions

$$S(0) = S_0, I(0) = I_0 \text{ and } R(0) = 0.\tag{3.8}$$

The basic reproduction number is calculated as follows (Rodrigues 2016):

$$R_0 = \frac{\beta}{\gamma}.\tag{3.9}$$

The value determines the virality of each item posted. If $R_0 < 1$, it indicates that the number of people who reach the posts will decrease, and thus the item is not viral. If $R_0 > 1$, it signifies the number of people who reach the posts among the population will increase, and hence the item is viral. If $R_0 = 1$, the number of people who reach the posts among the population remains constant.

3.4 Results and Discussion

The system of differential equations in Eq. (3.7) is solved using MATLAB software. The values of the parameters are displayed in Table 3.3.

The initial conditions are

$$S(0) = 19,000, I(0) = 2000 \text{ and } R(0) = 0.\tag{3.10}$$

The time evolution of each product posted online for 7 days is presented in Fig. 3.2.

Table 3.3 The values of parameters for each product

Parameter	Attire set	Dress	Shoes	Backpack
D	7	7	7	7
τ	0.11	0.11	0.11	0.11
ρ	1.0	0.7143	1.4286	1.4286
Q	7	5	10	10
β	0.11	0.0786	0.16	0.16
γ	0.14	0.14	0.14	0.14

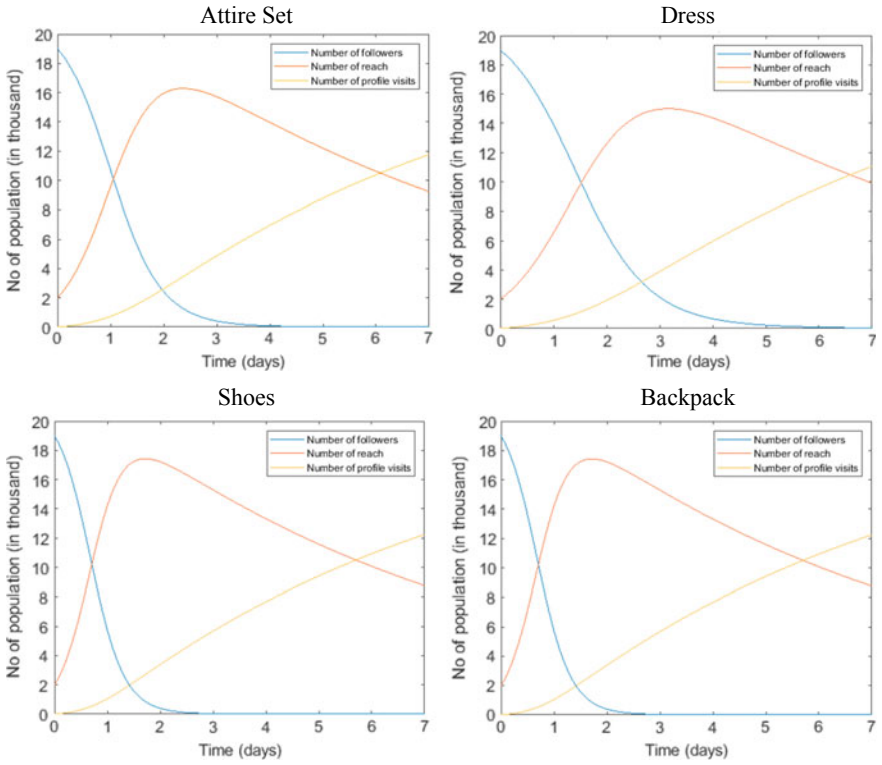


Fig. 3.2 The time evolution of Instagram population for each product posted

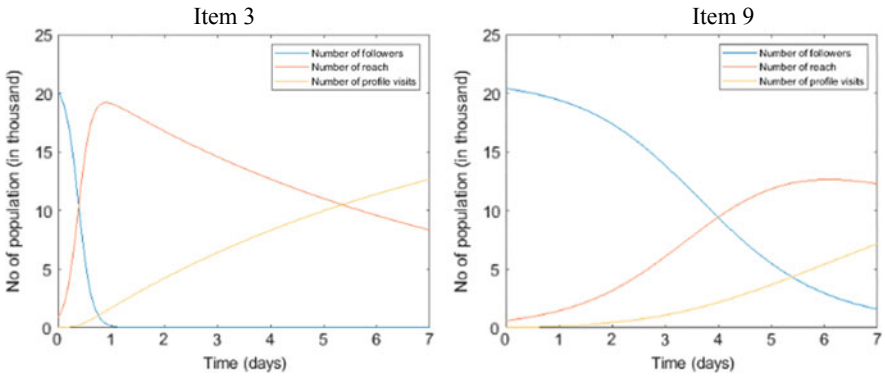


Fig. 3.3 The time evolution of Instagram population for the posted items 3 and 9 of attire set

Table 3.4 The value of the reproduction number for each item

Item	Attire set	Dress	Shoes	Backpack
1	0.64	0.79	1.0	0.43
2	2.29	1.07	0.36	0.36
3	2.79	0.79	0.43	0.86
4	0.50	0.36	1.71	
5	0.50	0.64	0.71	
6	0.64		0.57	
7	0.50			
8	1.86			
9	0.36			

For an attire set, the number of followers drops to zero on day three. The followers who reach and share the contents spread quickly through the population to more than 16 thousand followers in 2 days. More than 11 thousand followers stop visiting the profile on day seven. For a dress, the number of followers drops to zero in 5 days and becomes constant until the last day of the promotion. The followers who reach and share the contents spread slowly compared to the attire set, reaching more than 15 thousand followers in 3 days. About 11 thousand followers stop visiting the profile on day seven. For shoes and backpack, the number of followers who reach and share the contents reaches the peak almost in 2 days. The number of followers drops to zero in two-and-a-half days and becomes constant. About 12.1 thousand followers stop visiting the profile on day seven.

The value of the reproduction number for each item is listed in Table 3.4.

This value reveals that for attire set, items 2, 3, and 8 are viral among the followers. Items 2 and 3 were uploaded on the same day and both items were able to attract the followers. Items 4 and 5 were also uploaded on the same day but none of them were able to attract the followers. The same situation occurred for items 6 and 7. However, for items 8 and 9, only the first item uploaded was viral.

For dress, items 2 and 3 were uploaded on the same day but only the first item uploaded was viral among the followers. The same patent also occurred for shoes in the third week. Items 1, 2, and 3 were uploaded on the same day, and items 4, 5, and 6 on another day. In two different days, only the first item uploaded (items 1 and 4) was viral. For the backpack, all of the items were uploaded on the same day, but none of them went viral. It seems that a backpack is not popular among followers.

Among all items posted, item 3 of attire set is recorded as the most viral item (reproduction number, 2.79). Meanwhile, item 9 of attire set, item 4 of dress, item 2 of shoes, and item 2 of the backpack are the least viral item with the reproduction number, 0.36. Figure 3.3 shows graphs of two different items, the most and the least viral post. For item 3, the number of followers drops to zero in 1 day, but for item 9, it takes more than 7 days to drop to zero. The post of item 3 reaches almost all followers on the first day. For item 9, the post reaches the highest number of followers

(only about 15,000) on the fifth day after upload. On the seventh day, about 12,500 followers visit the profile for item, 3 but only about 7000 followers visit the profile for item 9.

3.5 Conclusion

This study is to investigate the dynamic of posts through Instagram. It only focuses on dropship business that is related to the selling of kid's fashion wear and accessories. There are four different products that have been promoted: attire set, dress, shoes, and backpack. The promotion only focuses one product on each different week. Within one particular week, several postings might be done depending on the availability of the new items. Sometimes, there are more than one item that have been posted in 1 day. Each item is posted separately, one after another. If there is no new item available, no posting is made.

The initial values of SIR model that is being used are 19 thousand for the number of unreached followers, 2 thousand for the number of people who reach the contents and actively share the posts, and zero for the number of people who visit the profile. The virality of each post can be identified through the value of the reproduction number. Each post is considered viral if the reproduction number is more than 1. The higher the reproduction number, the more viral the posting. The time evolution of viral post can be clearly described through a graph that has the three components of the SIR model: number of followers, number of reaches, and number of profile visits. The more viral the post, the faster the post reaches all of the followers. By that time, the number of followers who respond to the post starts to increase. For the unviral item, the post may still be unable to reach all of the followers even though the items have been posted for more than a week. As a result, the response from the followers might be less.

The virality of a certain product might tell the agent which items are popular among the active followers. Since Instagram is one of the famous online business platforms, the items are expected to be posted more frequently. With the increasing number of product posting through Instagram, the followers might forget about the product easily if they are not frequently reminded.

Through the observation of the occurrence of multiple posts in a day, the first post appears to be viral, while the other posts are unviral. This pattern of virality might be taken into consideration in order to enable every post of a particular item viral in the future. In the future, the agent might try to post all of the available items at once or still make multiple posts, but the duration of one post to another post might be longer about 2 or 3 h. Since this study is based on the observation of an approach that has been made, all of the suggestions can be considered to be an experiment for future study.

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Chapter 4

Visual Communication, Photography-Based Research: A View from Case Study of Phototherapeutic Influence in Malaysia



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and Safrina Muhammad Azmi**

Abstract The field of visual communication is an important structure of visual studies. The branches of visual communication literally sum up to all visuals as projection to every element of communication form. The study develops these vertical integrations into a powerful tool for viewers or creators to advocate the diversity of visual meaning metaphorically. Underneath this layer of understanding, the study researches the possible benefits of the phototherapeutic technique as an alternative therapeutic treatment for case study in Malaysia. The study focuses on analysing the trend of phototherapy as a visual meaning approach, and its benefit and prospects for Malaysia health departments. This study is narrowed into the source of understanding the Sustainable Development Goals (SDGs) agenda THREE (3) on section non-communicable diseases and mental health, mainly discussing the national apprehension.

Keywords Phototherapeutic technique · Case study · Visual communication

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4.1 Introduction

Visuals are cognitive intelligent tools and a powerful source of production and reproduction (Bolwerk et al. 2014). The visual data can stimulate memory and enable retracing of memory (Roach et al. 2016). With the evolution of digital technology, the computer algorithms have brought visual production to the next level. Revolution 4.0 has added value to intelligent learning, mainly in the camera industry (Vaquero and Turk 2015). Inclusively, as a part of Artificial Intelligence (AI) technology, all data images are available for mutual categorisation (Li et al. 2012). By emphasising integrated information into a form of visual creativity, the human brain recognises and processes every data in his/her memory through their visual experience (Borkin et al. 2016). In terms of reviving data, identifying the right tools for respondents is very important. With the evolution of the technology era, the future of technology is flourishing. Visuals, mainly photography in the development of Artificial Intelligence (AI), have become an easy tool on the digital platform. All forms of technical formula have been combined into one simple merchandise. Altogether, the practice of visual has formed into many branches of 'ism, which still presents many arguments in the terminology of value (Zhang 2017).

On the other hand, photography is an easy technique of visual communication to increase understanding (Keshavarzi 2010). The instance of image photography reflectively gaining and building memory is achievable, giving meaning and the ability to evaluate (Peregrina 2015). The photograph is one of the visual imagery memories. It is divided into two separate codes, verbal and another verbal (Dewan 2015). The photograph dual-code theory remains in the storage of long- and short-term memory and improves the abilities to recall (Lury 1999), which explains why the idiom into the visual perception has advanced by the use of image, purpose, development and marketing. Its purpose in this context has added to the objectivity of advertising, artwork, fashioning or journalism. With an advanced objective, message will be easy to explain. Hence, the study of communication is generally used within the application of learning and interaction. As a result of the development of technology, products can be accessed through digital technology or via exhibitions. The results discussed not only visual communication but also several branches of visual studies, such as visual literacy, visual persuasion, visual rhetoric, visual meaning and visual imagery. These studies determine the value of an image, whether a drawing, video, sculpture, photograph or animation. Focusing on the level of meaning, Weber (Knowles and Cole 2008) explained the value of denotative and connotative visual messages towards meaning. This study confirms that denotative visuals commonly provide direct messages, and it is explicitly proven these can be used to persuade the audience to understand the image and be able to explain their meaning.

4.2 Visual-Communication-Based Research

Visual communication evokes the diversification of visual formula. The appreciation of visual is sensory to the effectiveness of products. In every frame of these needle-points, the wider influence of the visual becomes more noticeable. The use of visual has been in practice in the technology, especially through IOT (Internet of Things). Therefore, the process of visual development preferences ought to relate back to the basic understanding of the foundation theory of visual communication. Visual studies are determined by sets of visual communication, including segments like visual rhetoric, visual persuasion, visual literacy, visual meaning and visual imagery (see Fig. 4.1).

Visual image is a form of items that please the grey area of visual meaning, through all the processes of key development by persistence with the philosophy of visual literacy, and later through rhetorical materials and persuasions. Visual imagery is commonly a part of the process. In the past, the process was slow, but with the evolution of the industry, especially revolution of Photography 4.0, the AI technology may develop unbelievable competencies. Information or image-based research development has become widely interactive and easy to explore. The variety of visual imagery is imagination which assists the mental storage. Visual imagery is a common practice in psychomotor psychology and aids the ability to explain using cognitive skills (Darling et al. 2015). Psychologically speaking, the process, also known as visual mental imagery, involves the deliberation use of pictures, recalls the imagery memory and relates it to experience (Fery 2003). When participants bring the imagery to mind, the brain will recondite memory and share the result. For example, the case study of de Gelder et al. (2015) explored the mental emotion with blind participant, exposing participants to the feeling of anger, and learned how they described this as the figure image of a tree, an imaginary conclusion that is beyond the reach of standard visual communication studies.

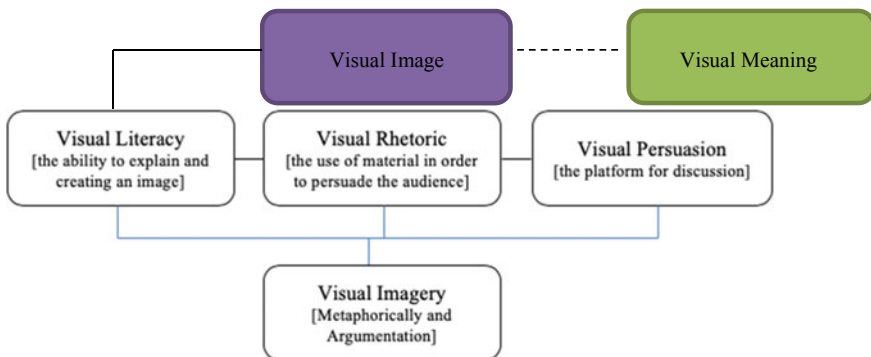


Fig. 4.1 The segmentation of visual communication

4.3 Definition of Visual Photo as Therapeutic Approach

Visual communication in terms of meaning is focused mainly on understanding the deep meaning of image photography. The approach of every segment can support understanding from the visual communication point of view. In addition, the study also focused on phototherapeutic techniques, an approach and method that can provide a reference for future researchers. Phototherapy is a process of expressing feelings beyond words. Therapeutic photography does not mean only photo-taking. It also includes other photo-interactive activities, such as photo-viewing, posing, planning, discussing or even only remembering or imagining photographs. The use of photographs as a therapeutic tool was started in 1844 by Dr. Thomas Kirkbride and was followed up by Dr. Hugh Diamond in 1856 (de Gelder et al. 2015). Phototherapy can also provide therapeutic treatment and satisfaction and has received much academic interest. As a branch of art therapy, phototherapeutic technique, particularly the study of visual imagery, presents a means to gain information through experience or memory recall, either as a form of study or a foundation of phototherapy. These robust techniques have brought photography to a different level tremendously overtime with the influence of digital technology.

4.4 A View from Case Studies of Photo as Therapy in Malaysia

Case Study 1: An Approach Using Photographs as a Part of the Therapeutic Process for the Mentally Ill Patients, Perlis, Malaysia (see Fig. 4.2).

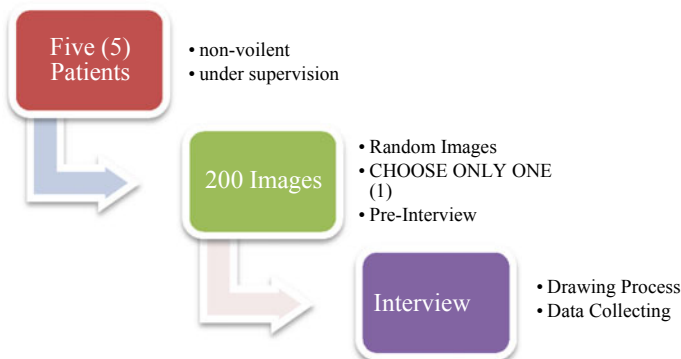


Fig. 4.2 Design structure flow work of photo elicitation interview (PEI) approach

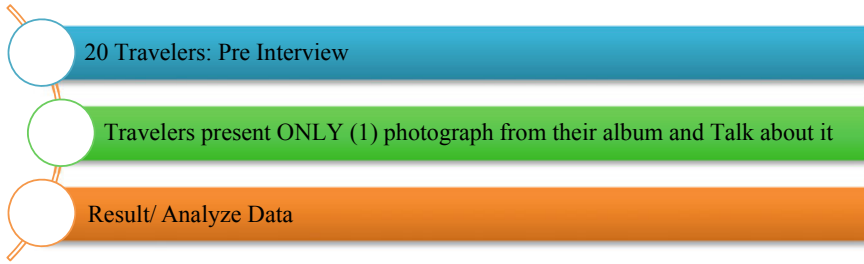


Fig. 4.3 Design structure flow work of photo elicitation interview (PEI) approach with image-sharing technique

Result:

From the study, participants gave qualitative feedback that gives a positive impact to their development. The most significant observations were that patients appeared to become *more sociable, relaxed, more in control and focused*, and were *better able to reflect on experiences*. Participants have discussed deeper meaning which is significant to their personal life.

Case Study 2: Gauging Tourist Interests Using Photo Elicitation Interview (PEI), Kuching, Sarawak (see Fig. 4.3).

Result:

The study used the photo elicitation interview approaches on different participants, objectively, to see the value of the acceptance point of view from multiple participants. The results from this research found that most of the travellers shared their pictures which influenced the traveller behaviour and preferences. Besides the tourism recommendation, travellers also shared new location that is suitable for Sarawak Tourism. It also raised certain issues regarding public transport in Kuching, Sarawak.

Case Study 3: Phototherapy and Mental Health Stability for Displaced Persons: A Study of Myanmar Refugees in Malaysia (see Fig. 4.4).

Result:

The study sought the comparisons between participants and different phototherapeutic approaches. In this study, participants were asked to choose images related to their hobbies, age and lifestyles. The study enhances the indirect message, which is an important information for the organisation and therapists involved in supporting these refugees.

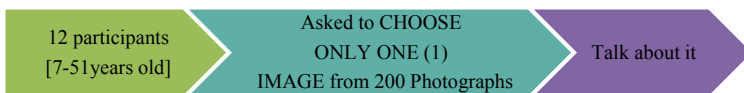


Fig. 4.4 Design structure flow work of photo elicitation interview (PEI) with case study (1) approach

4.5 Discussion

From all three (3) piloted studies, all participants were asked to choose a photograph according to the images of their experience, background and feeling. The process of case study no. 1 which detailed the influence of art therapy (i.e., drawing with participants) was enhanced during the process. Meanwhile, case studies 2 and 3 focused on participant's preferences and needs. The studies related to the impact of visual persuasion would depend on ascendancy of visual literacy towards the functionality visual itself because every visual gives a different effect and affects viewers in certain understanding. In addition, the tendencies of visual to relate to individual or groups can always be traced back to their background, experience and level of knowledge (Weiser 2015). Therefore, the observable explanation towards visual persuasion is like a metaphoric of 'tongue twister' energy; the visual would be successfully elaborated if it is structurally literate. All the case studies focused on visual persuasion, which is usually practiced on image advertising that interprets the use of any form of visual to persuade a viewer (Maitland 2013). In this context, visuals are used to persuade the communication between viewers to analyse, discuss and interpret the impact of the image. Messaris concluded the narrative of photographs should be divided into index, icon and symbols (Fig. 4.5) (Lewis 1998), which is explained in the book '*Visual Persuasion: The Role of Images in Advertising as follow to the Messaris theory*'.

In addition, visual rhetoric is an interdisciplinary study of persuasion gained by multilevel factors (Hjarvard 1997) as a formula to prove the appropriate data to deliver and receive. However, in terms of interpretation, one has to resolve the questions of what visual means, why was it created and how to understand it? Visual rhetoric

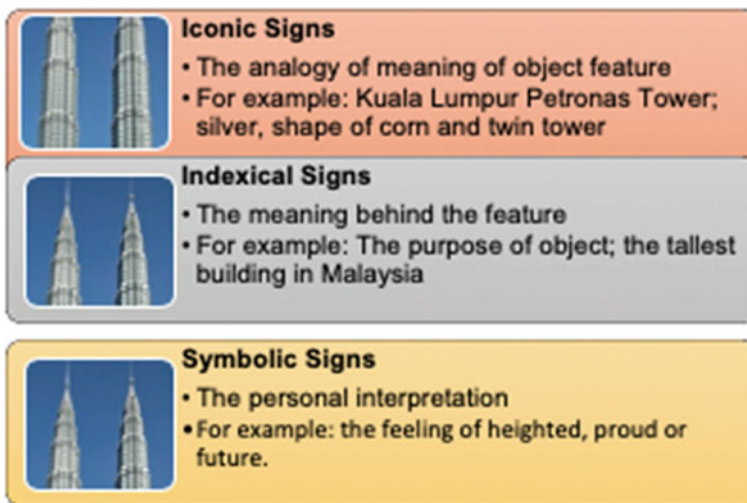


Fig. 4.5 Inspired by P. Messaris Visual Persuasion

is a form of persuasion (Tao 2018). The art is to persuade the audience with methods that enable them to analyse it (Foss 2004). The psychology of visual rhetoric always highlighted visual arguments. The association between both relationships is entirely related. Visual rhetoric is the use of image, whereas visual persuasion acts as a platform to process the meaning from the image (Helmets 2004). Furthermore, visual is a rhetorical argument, which is an instrument to deliver message (Murray 2013), and also the conception language for explaining visual (Birdsell and Groarke 1996). Gaining the cognitive response from the viewer turns visual rhetoric subjects into metaphor and argument. According to Ortiz (Seliger 2014), firstly, visual segmentation leads to the visual metaphorical expression indication and development of visual imagery; secondly, it leads to the literal meaning, which is the purpose of development; thirdly, the advertiser's message is used to convince the viewer on buying, looking or interpreting the product.

4.6 Conclusion

As a visual persuasion is the ability to react in a certain way while viewing the image, with the image giving infinitive or definitive meaning, it can be summed up into one general root of visual communication. Coined into the visual literacy chain, visual persuasion is triggered by the act of literacy and an action of visual rhetoric, and verbal, or logical discussion. Hence, the symbolical foundation of visual persuasion is described as a banking system of image perception of visual persuasion. Hence, the study of visual communication is generally an application for learning and interaction. Following the recent development of technology, tangible or intangible products can be accessed through digital technology, or via exhibitions. Studies by Lam (2015) and Matilda Ståhla (2019) show the influence of visual on participants. The results discussed not only visual communication but also several branches of visual studies, such as visual literacy, visual persuasion, visual rhetoric, visual meaning and visual imagery. These branches of studies determined the value of images in drawings, videos, sculptures, photographs or even animations.

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Chapter 5

Contribution–Classicizing Popular Songs of P. Ramlee for the Flute and Guitar



Siti Hajar Mohamad Seperah and Sharifah Faizah Syed Mohammed

Abstract A well-known Malay pop composer, musician, and singer, P. Ramlee, has a significant impact on the Malay music and film industries as well as Asian cultures. P. Ramlee has composed and produced more than 300 songs during his musical journey. The purpose of this research is to explore the possibilities of a modern popular Malay music performed by a duo group, which consists of a flute and a guitar. Secondly, it examines the two closely related musical instruments: flute and guitar, in performing a new arrangement of music of “Bekorban Apa Saja” (To Sacrifice Everything) and “Menceceh Bujang Lapok” (Chatter of the Old Bachelor). The music was originally composed by P. Ramlee for solo vocal, a band consisting of guitar, bass, and drum. It will specify the techniques and methods to depict the melodies and accompaniment for both instruments. By using practice-led research as a conceptual framework, this study generates detectable output from the creative work. Most commonly, a practice-led research project consists of two components: a creative output and a text component, commonly referred to as an “exegesis”. The work itself provides the outcome of the research flow and answers all the research questions (Candy in Practice based research: a guide. Creativity and cognition studios report 1, 2006). The deliberations for musical arrangement incorporate the following research questions: i) what are the specific music elements and methods of the flute and guitar that can be portrayed for the selected song? ii) what are the structures of the new arrangement for the songs? The primary source of “lead-sheet” of the selected repertoires was gathered from a music score published by Perkamus in Singapore. The new arrangement of music for flute and guitar then had been reproduced and recorded. The selection of these two instruments features significant impact of P. Ramlee’s music on instrumental performances.

Keywords P. Ramlee · Flute · Classical guitar · Music analysis · Performance studies · Practice-led research · Duo performance

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5.1 Introduction

The music of P. Ramlee has been widely performed and studied in Malaysia. Most of his music was produced and written for his film, and during 1961 and 1972, his compositions became prominent in the Malay community (Ahmad and Johari 1995). Also, his music has been greatly discussed in the historical context of the film (Barnard 2003, D. Abd Kadir 2016; a.Hamdani 2010; A.Sarji 2011; Chan 2012). In Malaysia, P. Ramlee's music has been rearranged for many types of styles in arrangement and ensembles (Simposium Karya Seni Agung P. Ramlee. 2003). The variety unfortunately was limited. This research thus intended to expand on the flute and classical guitar works performed by P. Ramlee. The original music works were produced for a band and have become popular songs in his films called *Bujang Lapok* and *Hang Tuah*. Flute and guitar, on the other hand, have a very proficient collaboration since the classical music era. The twenty-first-century flute and guitar duo literature contains equal parts of intricate melodic and harmonic content, challenging both players with standard and contemporary techniques. The general consensus reached was that the flute and guitar duo has developed into an equal partnership in the last 30 years, accomplished through music with more substantial parts for both instruments, beginning with the legendary *Histoire du Tango* by Astor Piazzola (Schroeder, 2015). This research intends to expand the arrangements for the flute and classical guitar combination of P. Ramlee's music. Two songs "Bekorban Apa Saja" and "Menceceh Bujang Lapok" are chosen as case studies to illustrate the relationship between the instruments. "Bekorban Apa Saja" (To Sacrifice Everything) is a song expressing the eagerness in surrendering for the sake of love in a slow tempo of rhumba style. In contrast, "Menceceh Bujang Lapok" (Chatter of the Old Bachelor) is in a lively beguine-style. Its humor lies in its text added to a humorous scene depicted in the film, where all three bachelors rode on a single bicycle, singing of their scanty lifestyle. The new arrangement addresses the following questions: i) what are the specific music elements and methods of the flute and guitar that can be portrayed for the selected song? What are the structures of the new arrangement for the songs? The original music was performed by a band accompanying the singer, consisting of the guitar, drum, and electric bass. Both songs have become synonymous with his films, *Hang Tuah* and *Bujang Lapok*, respectively. These two types of music genre were selected due to their range, the character of the melodies, and phrasing. This association of duo ensemble thus was examined and analyzed in both songs *Bekorban Apa Saja* and *Menceceh Bujang Lapok*. It has been arranged by a classical-trained teacher and free lance musician, Mr. Zhuraini Jihat. This research thus analyzes the elements of music such as phrasing of the melodies, textures, articulation, themes, techniques, rhythmic patterns, and the connotation of the collaboration of both instruments. It portrays the duo group flute-guitar effective association in performing the music works by P. Ramlee.

5.2 Method

This study was carried out by using a practice-led research method. Practice-led research focuses on the nature of creative practice, leading to new knowledge of operational significance for that practice, in order to advance knowledge about or within the practice. The results of practice-led research may be communicated in a critical exegesis without inclusion of the creative artifact, though the creative practice is an integral part of the research (Dean 2019). The primary sources of music lead-sheet were taken from a publisher from Singapore, Perkamus. Having two types of music genre of which the great composer P. Ramlee normally has, the slow and fast tempo of “*Berkorban Apa saja*” and “*Bujang Lapok*”, were selected. These two types of music genre were selected due to their range and suitability for guitar and flute.

To create the new arrangement effectively, I worked collaboratively with Zhuraini Jihat (b.1972), a classical-trained, free lance musician and guitar teacher for 20 years. Zhuraini formed the group Trio Satu Malaysia in 2005 and arranged music for the ensemble. As a flutist, I suggested the framework for the new arrangement. It is one that would utilize both instruments effectively and suggest the characteristics of pieces and styles that typify such combination. The discussion incorporates a new rhythmic pattern, key, tempo, style, and techniques of playing both instruments, the introduction of new theme or melodies, and the interpretation of the new theme. The study intends to portray the effectiveness of the flute–guitar duo in performing the works of P.Ramlee. The components of the analysis will incorporate the elements of music, such as the phrasing and articulation of the melodies, theme, techniques, rhythmic patterns, and texture, providing the connotation and hence the direction of the music.

The sound recording of the arrangement forms the basis of the analysis, as it gives a complete impression of providing a report to the researcher. The audio recording took place at the Universiti teknologi MARA (UiTM) Faculty of Music recording studio in Shah Alam. The sound provided data to test and illustrate the new arrangement of the song. The recording offers additional directions for the interpretation of the phrases, fine-tuning the dynamics, and expression marks for the recurring themes within the music.

The computer notational program, Sibelius, generates the score for the music arrangement. It ensures the provision of a conventional music sheet. The software allows the arranger to produce and make quick amendments to the score. Different articulations are tested and performed as the software is fast and legible.

5.3 Results and Discussion

Both the selected pieces are discussed in this section within the context of musical analysis. The perspective of this duo ensemble is then explored. Firstly, the new arrangement of both the pieces has been analyzed on its musical structure. It includes

Fig. 5.1 *Bekorban Apa Saja* (Bars 1–8)

the form of each section and melody segment. Secondly, the analysis was directed on the harmonic analysis structure by the guitar chords' progression. Then, the overall rhythmic patterns of both the pieces were examined to develop the style and interpretation of the music. It formed the techniques of playing both instruments. Every single melody and harmonic sections were clarified to produce a specific technique in flute and guitar. This included the articulation such as slur, staccato, tenuto, and trills. Further description can be found on its explicit sections (Fig. 5.1).

5.3.1 Analysis on *Bekorban Apa Saja*

The whole arrangement showed the structure of the homophonic texture, which was a melody and an accompaniment. The flute, in a duo group, played the melody lines, while classical guitar was the accompaniment. The accompaniment provided rhythmic and harmonic support for the melody. The rhythmic and harmonic support are combined in the same material/parts or separate parts. This is shown in bars 2 and 3. For the accompaniment part, the whole arrangement uses an arpeggios rhythm structure, scales, and a two-beat count (minim) with harmonic support. This is shown in bar 2 and bar 3, where there is a combination of both rhythmic and harmonic support. The accompaniment is always felt on the first beat. It keeps the beat and flow together with the melody. The melody is the most important line in a musical texture. In this homophonic texture, there was only one primary melody which was carried by the flute. The primary melody occurred frequently, and there was a certain part that repeated the melody and rhythm as well. This can be observed in Fig. 5.1.

However, the melody and rhythm are the same. Besides, as for the melody, it uses non-harmonic tones (non-chord tones) which are pitches that sounded along

Fig. 5.2 *Bekorban Apa Saja* (Bars 5–12)

with a chord but were not the chord pitches. For example, bars 10 and 12 have showed the melody on beat three and four and have used suspension (non-harmonic tones). Suspension occurred only as an accented non-harmonic tone. This is shown in Fig. 5.2.

The melodic pattern of the suspension was the preparation, the suspension, and the resolution. To be more specific and clearer, the preparation was the common tone, suspension (SUS), and then step. As for the accompaniment at bar 33 of Fig. 5.3, on beat 3 there was a use of passing note. It occurred when it needed to have a single note before it was moved to another chord. In bar 43, the melody played hemi-demisemiquaver notes, while the accompaniment rhythm was quaver. It has shown a good counter and interaction between the melody and accompaniment although it is not a long structure or repetition.

As for the chords, the arrangement has a song chord progression. It has a common chord progression. However, in Fig. 5.3 as well, there was a difference in the middle of the arrangement where the accompaniment, the guitar, played Fmaj13 in bar 34. It showed that the part is to highlight the tension chords by classical guitar without the melody. The cadence for this arrangement is an Authentic Cadence (V7 to i).

Fig. 5.3 *Bekorban Apa Saja* (Bars 32–35)

The dominant (V7) chord is resolved down to the tonic chord toward the end of the music (Fig. 5.4).

5.3.2 Analysis of *Bujang Lapok*

The key for this arrangement was in E Major at the beginning and modulated several times only for the “intro”. The lists of the key signature involved were E Major (Tonic key), F# Major at bar 5, F Major at bar 9, and then reverted to the original key. The modulation function stopped when it came to the E Major key, of which introduced it to a new section. Obviously, in the first section, from bar 1 to bar 12, both parts were in linear rhythmic patterns, which sounded like a unison pattern; nonetheless, the counter-melody was highlighting the flute at every four bar phrases. As it is noticed, the modulation occurred in every four bar phrase that led to the second section until bar 12 and later entered the new section. The modulation technique that has been used is a direct modulation in all the three modulation parts (Fig. 5.5).

Then, the guitar took place playing as a melody for the intro and flute as a second voicing/harmonizing to the melody patterns. For the second section at bar 13, the accompaniment guitar maintained the same rhythm/intro motive as it became the harmony device for the melody part and flute as a main melody. As for harmony, it involved the triplet rhythmic hooks which contrasted the melody where flute was a common rhythm and created a variety for movements. At the same time, for harmony, the cadences were the same as the arranger uses a perfect cadence that involves chords I and V to support the melody line. Then, the plagal cadence occurred at bar 26 to bar 27 and continued using a perfect cadence at bar 28 to bar 29. Later, the new pattern was introduced subsequently in the “third section” of the piece (Fig. 5.6).

For rhythmic formation, there were new rhythmic shapes for the guitar which could be considered as “against the rule” of music theoretically. This is shown at bar 22. Later at bar 30, both the accompaniment and melody lines were in common time notation featuring the I-V-I chord scale, while the counter-melody interlocked inbetween the notes. The arranger modified the third beat of the melody in bar 32 using a D natural trills instead of D sharp, creating a dominant equation E for classical guitar and D for the flute to sound as in E dominant. For Adagio section, the new harmony function occurred at bar 40 when the chords at guitar were using ii-V progression and back to ii minor position of which was not resolving it to the tonic key as ordinary progression ii-V-I. That function also has been repeated at bar 48 (Fig. 5.7).

The appealing part is when both flute and guitar using homophonic textures began at bar 42, where the guitar took part as the melody and flute as the harmonic to the melody lines. The ideas have been highlighted at bar 43 and bar 44 when the full triad is used for each melody rhythm. The flute occurred to play as a third note function compared to the classical guitar that played the first and fifth note positions. Here, the function of flute was to support the melody as it has created a sound fully in terms of harmonic melody thickness. Arriving at a tempo, the rhythmic pattern has been

The image displays a musical score for the song "Bekorban Apa Saja" (Bars 32-56). The score is arranged in two systems, each with a Flute (Fl.) and Guitar (Gtr.) part. The Flute part is written in treble clef, and the Guitar part is written in treble clef with a capo on the second fret. The key signature has one sharp (F#). The score is divided into measures, with bar numbers 32, 36, 40, 43, 46, 50, and 54 indicated at the beginning of their respective systems. The music features a mix of eighth and sixteenth notes, with some passages involving triplets and sixteenth-note runs. The guitar accompaniment consists of a steady eighth-note pattern, often with a bass line that provides harmonic support. The flute part includes melodic lines with some grace notes and slurs. The score concludes with a final measure in bar 56, marked with a double bar line and repeat dots.

Fig. 5.4 *Bekorban Apa Saja* (Bars 32–56)

The image displays a musical score for Flute and Classical Guitar. It is divided into three systems. The first system shows the beginning of the piece in a key with three sharps (F#, C#, G#) and a 4/4 time signature. The Flute part starts with a melodic line featuring triplets and a dynamic marking of *f*. The Classical Guitar part provides a harmonic accompaniment with chords and triplets, marked with a dynamic of *f*. The second system continues the piece, with the Flute part marked *mf* and the guitar part also marked *mf*. The third system shows a modulation to a key with two sharps (D, A) and a 4/4 time signature, indicated by a key signature change at the start of the system.

Fig. 5.5 Modulation which occurs at the beginning of the music

The image displays a musical score for Flute and Classical Guitar for the piece 'Bujang Lapok', covering bars 22 to 29. The score is in a key with three sharps (F#, C#, G#) and a 4/4 time signature. The Flute part (top staff) features a melodic line with eighth and sixteenth notes. The Classical Guitar part (bottom staff) provides a rhythmic accompaniment with chords and triplets. The score is divided into three systems: the first system covers bars 22-25, the second system covers bars 26-28, and the third system covers bars 29-31. The guitar part includes dynamic markings such as *f* and *mf*.

Fig. 5.6 *Bujang Lapok* (Bars 22–29)

The musical score for Figure 5.7 shows two systems of music. The first system covers bars 30 and 31, and the second system covers bars 32 and 33. Each system consists of a Flute (Fl.) part and a Guitar (Gtr.) part. The key signature is three sharps (F#, C#, G#) and the time signature is 4/4. The Flute part in the first system has a melodic line with eighth notes. The Guitar part in the first system features a rhythmic pattern of eighth notes with triplets, marked with a dynamic of *mf*. The second system continues the melodic line in the Flute part, which includes a trill-like figure in bar 32, and the rhythmic pattern in the Guitar part.

Fig. 5.7 *Bujang Lapok* (Bars 30–32)

repeated invariably as in the intro section, and it has been featured again at bar 54 (Figs. 5.8 and 5.9).

A Dorian scale was later formed at bar 67 when the counter-melody of the guitar played at second beat, starting on G and descending to the F note before it jumped to the E note on the next bar, and thus it completed the perfect cadence function. The Dorian was used not only to create insensible vibes but also to simultaneously create

The musical score for Figure 5.8 shows two systems of music. The first system covers bars 38 and 39, and the second system covers bars 43 and 44. Each system consists of a Flute (Fl.) part and a Guitar (Gtr.) part. The key signature is three sharps (F#, C#, G#) and the time signature is 4/4. The Flute part in the first system has a melodic line with eighth notes. The Guitar part in the first system features a rhythmic pattern of eighth notes with triplets, marked with a dynamic of *mf*. The second system continues the melodic line in the Flute part and the rhythmic pattern in the Guitar part.

Fig. 5.8 *Bujang Lapok* (Bars 38–47)

The image shows a musical score for the piece 'Bujang Lapok' from bars 53 to 59. It is arranged for Flute (Fl.) and Guitar (Gtr.). The key signature is G major (one sharp) and the time signature is 4/4. The score includes dynamic markings such as 'a tempo', 'f' (forte), and 'p' (piano). Technical notations include triplets and slurs. The flute part starts at bar 53 with a melodic line, and the guitar part provides harmonic accompaniment. The score concludes at bar 59 with a repeat sign.

Fig. 5.9 *Bujang Lapok* (Bars 53–59)

a resolution toward the harmony progression. Afterward, at bar 87, the key changed to F sharp major considering as a direct modulation to this piece. It continued after each four bar phrases and led to the new F Major key. Finally, the piece ended with a plagal cadence of I-iv-I progression. The I-V chord changed into minor key before it resolved to the tonic of the key in F Major (Fig. 5.10).

5.4 Conclusion

This study has contributed to the music elements by revealing a flute and guitar to showcase a good collaboration in performing Malay pop music in the classical technique style. It has shown how classical flute and guitar techniques were involved in presenting both the selected pieces.

A few flute technique can be found in repertoires such as staccato, accent, trills, triplets, tenuto, and slur. These techniques are required to suit the style of each phrasing of the melodies. They have strengthened the flow of the melody in both pieces. The slur, accent, tenuto, and staccato helped to make the phrasing to be *cantabile* for the vocals, while the trills indicated ornamentation on certain phrasing. This can be seen at the beginning of *Menceceh Bujang Lapok* music score in Fig. 5.11.

Next, the vibrato techniques played an important role to execute each of the phrasing in *Bekorban Apa Saja* music. This helped the music to flow parallel to the voice in the original music. This technique has offered the essence of the interpretation in performing the music for flute and guitar pungently. Figure 5.12 shows the melody of *Bekorban Apa Saja*. The lyrical melodies demand a preminent technique of vibrato.

As for the guitar, a few of classical techniques have been used in both pieces. There are *Rasgado* (Spanish way of strumming), Octave, staccato, and voicing on

Fig. 5.10 *Bujang Lapok* (Bars 86–96)

third and fifth and arpeggios. These styles of technique are found in the form of Argentinian Tango. Furthermore, both instruments were captured using the same running scales and voicing on chords arpeggios as well. The ranges of notation for these instruments are playable. Even though it seemed intricate at certain bars, it could still be considered as intermediate techniques in demand.

In conclusion, the flute and guitar duo is suitable to be arranged exquisitely for the music of P. Ramlee. The characters of flute and guitar enriched the melodies and

The image shows four staves of music for Flute (Fl.) in the key of D major (two sharps) and 4/4 time. The first staff is labeled 'Flute' and contains measures 1-4. The second staff is labeled 'Fl.' and contains measures 5-8. The third staff is labeled 'Fl.' and contains measures 9-12. The fourth staff is labeled 'Fl.' and contains measures 13-17. The music features a mix of eighth and sixteenth notes, with some measures containing triplets and sextuplets. There are also some rests and a key signature change at the end of the fourth staff.

Fig. 5.11 *Menceceh Bujang Lapok* (Bars 1–17)

The image shows a single staff of music in the key of D major (two sharps) and 4/4 time. The tempo is marked as quarter note = 70. The music consists of six systems of staves, each containing several measures of music. The first system starts with a quarter rest followed by a series of eighth and sixteenth notes. The second system continues with eighth and sixteenth notes, including some beamed eighth notes. The third system features a mix of eighth and sixteenth notes. The fourth system has a similar rhythmic pattern. The fifth system continues with eighth and sixteenth notes. The sixth system ends with a quarter note and a half note. The music is characterized by a steady eighth-note pulse with occasional sixteenth-note runs.

Fig. 5.12 *Bekorban Apa Saja*

rhythms for P. Ramlee compositions. It has been demonstrated that this duo fits in to execute genres in “*adagio*” and “*animated*” styles in music.

This research has widened the knowledge on issues of performing modern music in a classical style. It helps to identify specific techniques of flute and guitar to be pertained in the selected piece of music. The element of music by P. Ramlee thus has explored to complement the instruments in a variety of musical styles.

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Chapter 6

Determination Suitability in Comparing Selected Physical Fitness Components among Young Athletes between Age Groups and Gender during Talent Identification Process in Malaysia



Mohd Syafiq Miswan, Ellail Ain Mohd Aznan, Ahmad Dzulkarnain Ismail, Siti Jameelah Md Japilus, and Mohd Zaid bin Mohd Ghazali

Abstract The purpose of this study is to determine the suitability of grouping ages in comparing the physical fitness performance among 13- to 17-year-old male and female athletic athletes during the talent identification process. A total of 178 males [mean (\pm SD) age 14.3 (\pm 1.2) years; weight 55.7 (\pm 11.8) kg; and height 166.0 (\pm 6.8) cm] and 214 females [mean (\pm SD) age 14.5 (\pm 1.3) years; weight 49.5 (\pm 10.4) kg; and height 157.2 (\pm 5.9) cm] young healthy athletic athletes from 12 different States' Sports School across Malaysia participated in this study. Subjects performed seven selected fitness testing; 40 m sprint, vertical jump, standing broad jump, medicine ball throw, max push-up, 1 min sit-up, and yo-yo endurance level 1 test. Statistical analyses used were a one-way ANOVA with Tukey's post hoc tests, with $p < 0.05$ denoting significance. No significant differences were found in all fitness components, except explosive power for male athletic athletes aged 13 and 14 years and female athletic athletes aged 13, 14, 15, 16, and 17 years. No significant differences were also found between 15-, 16-, and 17-year-old male athletic athletes in all fitness component variables. However, there is a significant difference between the lower and upper tiers of age groups in various fitness components. Combination of data between ages into one group between ages (13- and 14-year-olds), (15-, 16-, and 17-year-olds), and (14- and 15-year-olds) for future data analysis regarding physical fitness component can be done. Muscular endurance component is robust and not influenced by age group differences. These differences may be caused by differences in physical fitness maturity rate in which female athletes mature at an early age compared to male athletes.

Keywords Physical fitness · Young athlete · Data management

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6.1 Introduction

“Scientific selection” or processes of talent identification (TID) in sports can be viewed as a more proactive procedure through which the identification of the talents takes place as a result of testing individuals on values associated with expertise in a sport. It is possible to determine physical, physiological, and mental qualities that influence sport performance. By using scientific research to determine the characteristics that elite athletes have and the ideal climate to cultivate those requirements, resources can be directed at those people who have the greatest potential to become exceptional performers (Gould and Carson 2008). To date, the initiative to recognize sports talent is widely carried out in Malaysia. In order to make this program a success, multiple ministries and parties are involved. The National Sports Council, the National Sports Institute, the Ministry of Youth and Sports, and the Ministry of Education are working together to carry out this program in order to achieve excellent sporting performance on an international level. The TID program previously focused on anthropometric measurement, physical skills, and mental toughness assessment (Krasilshchikov 2013). Various physical fitness testings were attempted to understand the physical attribute performance with a different type of sports (Miswan and Wilson 2010; Rasid et al. 2019). Nevertheless, it is also important to include in the TID system other attributes that are physiological, psychological, and sociological (Honer et al. 2015; Gabbett et al. 2007; Gabbett and Georgieff 2006). Some researcher used more sophisticated software to predict future talent in sports using k-nearest neighbor algorithm to determine suitable sport for the athlete based on attributes from physical fitness components (Jamaluddin et al. 2019). Hoffmann and Wulff (2015) emphasize that the accurate assessment of the TID system will have a significant long-term effect on the development potential of young athletes. However, during the selection process, biases in talent identification occur. Researchers continue to challenge the notion that talent selection in sport is done on a “level playing field,” with systemic biases existing in both talent selection and development. The “relative age effect” remains a popular topic. Several talent identification processes did not consider age, gender, and peers as these may be overlooked due to poor performance in physical fitness assessment due to relative age effect (Cumming et al. 2018). Therefore, the purpose of this study is to determine the suitability of grouping ages in comparing the physical fitness performance among 13–17-year-old male and female athletic athletes. The result of this study is potentially useful in grouping the young athletes’ data processes based on physical fitness component and gender differences during the data management process for talent identification.

6.2 Methods

Subject: A total of 178 male [mean (\pm SD) age 14.3 (\pm 1.2) years; weight 55.7 (\pm 11.8) kg; and height 166.0 (\pm 6.8) cm] and 214 female [mean (\pm SD) age 14.5 (\pm 1.3) years; weight 49.5 (\pm 10.4) kg; and height 157.2 (\pm 5.9) cm] young, healthy

athletic athletes from 12 different States' Sports School across Malaysia participated in this study. All participants were provided with an information sheet and a consent form to sign. Subjects performed seven selected fitness testing: 40 m sprint, vertical jump, standing broad jump, medicine ball throw, max push-up, 1 min sit-up, and yo-yo endurance level 1 test.

6.2.1 Anthropometrics

All testings were completed during school hours. Weight was measured on a Seca weight scale. Each participant was measured twice, and the mean of the two measurements was used. Height was measured with the subject barefoot using a measuring tape attached to the wall. The measurement of height, sitting height, and weight was taken to nearest 0.1 cm and 0.1 kg, respectively, and body mass index (BMI) was calculated.

6.2.2 Fitness Test

The fitness tests included 40 m sprint (speed), vertical jump (vertical explosive leg power), standing broad jump (horizontal explosive leg power), medicine ball throw (upper body power), maximum number of push-ups (upper body strength/endurance), 1 min sit-up (muscular endurance), and a yo-yo endurance level 1 test (aerobic fitness).

Speed was measured over 40 m with a set of electronic timers (Swift Power timer, Swift Performance Equipment, Australia). This test was performed from a standing start, with timing starting immediately after the subject passed the starting line. Two trials were performed, and the fastest time was recorded.

The vertical jump height was measured using the Swift Vertec (Swift Performance Equipment, Australia) equipment. The subject was instructed to make a counter-movement jump (no arm swing) and hit the maximal height scale blades on the Vertec with the dominant hand. Three trials were allowed and the best score, the difference between standing reach height and jump height, was recorded.

The standing broad jump height was measured using the Swift long jump mat. The subject was instructed to make a counter-movement jump (with arm swing) and land at the maximal distance with two feet. The measurement was taken at the nearest foot from the starting line. Two trials were allowed, and the best score was recorded.

Medicine ball throw was measured using 5 and 3 kg medicine balls for male and female athletes, respectively. The subject was instructed to hold the ball, bend forward with both arms and medicine ball between legs. With maximum effort, the subject throws the ball as far as possible. The maximum distance traveled by the ball was measured by determining the landing mark on the floor. Two trials were allowed, and the best was score recorded.

The maximum number of push-ups was measured as an indication of the muscular endurance of the subject. The subject had his/her hands and toes touching the floor, body and legs in a straight line, the arms shoulder-width apart, extended and at a right angle to the body. The subject lowered the body until there was a 90° angle at the elbows, and then returned to the starting position with the arms extended. This action was repeated until exhaustion.

Sit-up was measured by counting the maximum number of push-ups in 1 min. The subject lay on the mat and raised the knees at 90 degrees, and both hands at crossed chest was the starting position. The subject held the body up until the chest met the knee and going back to starting position was counted as one repetition. The subject kept repeating the movements up and down as many times as possible in one minute and the data were recorded.

Aerobic fitness was estimated from the yo-yo endurance level 1 test (Williams 1988). The objective of the test was to run for as long as possible in a 20-m-long lane, keeping to the speed indicated by the “beeps” on the recording. As the test progresses, the time between “beeps” decreases, and the subject drops out when they fail to reach the 20 m line before the next “beep” on two consecutive shuttles. Maximal oxygen uptake was estimated based on the data from Leger et al. (1988) and the distance covered was recorded.

All the fitness tests, except aerobic fitness, were completed in a counterbalanced order to minimize the impact of fatigue and any influence of testing order. The aerobic fitness test was held as the final test for all participants. The subjects were assigned to a group based on their gender (male and female) and age (13–17 years). The results were analyzed using standard descriptive statistics (e.g., mean, standard deviation). Statistical analysis used was a one-way ANOVA with Tukey’s post hoc tests with $p < 0.05$ denoting significance. All data were analyzed using SPSS (version 16.0) using $p < 0.05$ to indicate statistical significance.

6.3 Results

Anthropometric characteristics between age groups are shown in Tables 6.1 and 6.2. For male groups, there were significantly lower weight, height, and BMI between 13- and 14-year-old age group with 17-year-old age group except for BMI for 14-year-old age group. There also shown significantly lower height between 13-year-old age group with the rest of the age groups. However, there were no significant differences in weight, height, and BMI in all groups for female athletes.

Physical fitness performance between age groups is shown in Tables 6.3 and 6.4.

Table 6.1 Anthropometric characteristics (mean \pm SD) of male athletic athletes between 13 and 17 years

Age (years)	n	Weight (kg)	Height (cm)	BMI
13	63	52.32* \pm 11.68	163.42* \pm 7.18	19.46* \pm 3.52
14	52	55.44* \pm 10.21	166.43 \pm 6.98	19.92 \pm 2.88
15	27	57.18 \pm 10.86	167.41* \pm 5.37	20.34 \pm 3.28
16	27	58.94 \pm 8.83	168.45* \pm 5.31	20.68 \pm 2.19
17	9	67.91* \pm 21.63	170.47* \pm 6.82	23.15* \pm 5.92
Total	178	55.73 \pm 11.82	166.03 \pm 6.85	20.1 \pm 3.34

* $P < 0.05$ significant difference between age groups

Table 6.2 Anthropometric characteristics (mean \pm SD) of female athletic athletes between 13 and 17 years

Age (years)	n	Weight (kg)	Height (cm)	BMI
13	68	47.91 \pm 11.92	156.58 \pm 6.13	19.42 \pm 3.82
14	57	50.12 \pm 10.05	157.41 \pm 6.18	20.20 \pm 3.72
15	44	49.41 \pm 8.35	157.29 \pm 6.30	19.90 \pm 2.70
16	34	51.96 \pm 11.45	157.75 \pm 5.16	20.84 \pm 4.21
17	11	48.52 \pm 5.87	157.61 \pm 5.95	19.47 \pm 1.78
Total	214	49.50 \pm 10.44	157.19 \pm 5.98	19.96 \pm 3.58

* $P < 0.05$ significant difference between age groups

6.3.1 Male Age Groups

Differences between 13-year-old and other age groups—there were significant differences between 13- and 17-year-old age groups in all fitness component variables except 1 min sit-up, estimated Vo^2Max , 40 m speed, and max push-up performance. There was a significant difference between 13- and 16-year-old age groups in all fitness component variables except weight, BMI, 1 min sit-up, and max push-up performance. There was a significant difference between 13- and 15-year-old age groups in all fitness components except weight, BMI, 1 min sit-up, estimated Vo^2Max , and vertical jump performance.

Differences between 14-years-old and other groups—there were no significant differences between 14- and 17-year-old age groups in all fitness component variables except weight and medicine ball throw. There were no significant differences between 14- and 16-year-old age groups in all fitness component variables except 40 m sprint and vertical jump. There were no significant differences between 14- and 15-year-old age groups in all fitness components.

The rest of the groups—there were no significant differences between 13- and 14-year-old age groups in all fitness component variables except standing broad jump

Table 6.3 Physical fitness characteristics (mean \pm SD) of male athletic athletes between 13 and 17 years

Age (years)	n	40 m speed (s)	Vertical jump (cm)	Standing broad jump (cm)	Medicine ball throw (m)	Maximum push-up (reps)	1 min sit-up (reps)	Estimated $\dot{V}O_2^{\text{Max}}$ (kg/ml/min)
13	63	5.79* \pm 0.57	51.39* \pm 6.95	201.09* \pm 27.09	8.06* \pm 1.48	25.82* \pm 10.53	28.31 \pm 13.22	41.24* \pm 7.82
14	52	5.69* \pm 0.38	52.85* \pm 6.33	220.48* \pm 24.23	9.06* \pm 1.72	28.87 \pm 9.89	28.00 \pm 11.81	44.29 \pm 6.58
15	27	5.46* \pm 0.21	54.66 \pm 5.51	221.69* \pm 25.39	9.39* \pm 1.37	34.00* \pm 13.28	28.55 \pm 10.33	45.41 \pm 5.04
16	27	5.34* \pm 0.31	57.50* \pm 6.76	236.07* \pm 23.51	10.15* \pm 1.79	31.26 \pm 8.81	36.23 \pm 17.67	47.38* \pm 4.91
17	9	5.43 \pm 0.53	58.78* \pm 7.95	239.44* \pm 29.60	10.94* \pm 1.05	29.44 \pm 12.50	35.33 \pm 28.76	43.95 \pm 4.64
Total	178	5.63 \pm 0.47	53.63 \pm 6.95	217.16 \pm 28.63	9.06 \pm 1.78	29.03 \pm 10.97	29.87 \pm 14.49	43.85 \pm 6.83

* $P < 0.05$ significant difference between age groups

Table 6.4 Physical fitness characteristics (mean \pm SD) of female athletic athletes between 13 and 17 years

Age (years)	n	40 m speed (s)	Vertical jump (cm)	Standing broad jump (cm)	Medicine ball throw (m)	Maximum push-ups (reps)	1 min sit-up (reps)	Estimated Vo^2Max (kg/ml/min)
13	68	6.47 \pm 0.36	40.39* \pm 5.95	164.04* \pm 24.42	5.43* \pm 1.16	21.20 \pm 8.81	25.69 \pm 12.25	33.77 \pm 5.75
14	57	6.49 \pm 0.51	41.83* \pm 5.17	169.58* \pm 26.96	5.58* \pm 1.30	25.57 \pm 8.75	30.41 \pm 12.17	34.30 \pm 6.35
15	44	6.50 \pm 0.46	43.69* \pm 5.06	171.69 \pm 21.23	6.09 \pm 1.09	25.64 \pm 10.34	25.58 \pm 10.79	31.87 \pm 5.56
16	34	6.52 \pm 0.41	44.92* \pm 5.50	175.10 \pm 19.22	5.65 \pm 1.48	23.00 \pm 11.75	27.58 \pm 14.97	31.51 \pm 6.79
17	11	6.15 \pm 0.36	46.75* \pm 3.70	190.00* \pm 13.90	7.12* \pm 1.50	26.08 \pm 8.03	28.85 \pm 12.63	37.28 \pm 1.97
Total	214	6.47 \pm 0.44	42.55 \pm 5.69	170.29 \pm 23.86	5.70 \pm 1.29	23.81 \pm 9.79	27.31 \pm 12.50	33.30 \pm 6.07

* $P < 0.05$ significant difference between age groups

and medicine ball throw. There was no significant difference between 15-, 16-, and 17-year-old age groups in all fitness component variables.

6.3.2 Female Age Groups

Differences between 13-years-old and other groups—there were no significant differences between 13- and 14-year-old age groups in all fitness component variables. There were no significant differences between 13- and 15-year-old age groups in all fitness component variables except vertical jump (Tables 6.5 and 6.6).

There were no significant differences between 13- and 16-year-old age groups in all fitness component variables except vertical jump. There was significant difference between 13- and 17-year-old age groups in all fitness component variables except explosive power fitness component (vertical jump, standing broad jump, and medicine ball throw).

Differences between 14-year-old and other groups—there were no significant differences between 14- and 15-year-old age groups in all fitness component variables. There were no significant differences between 14- and 16-year-old age groups in

Table 6.5 Results of Tukey’s post hoc (*p*-value) analysis summary—comparison of physical fitness component between males of 13- and 17-year-old age groups

Fitness component	Age group (years old)	Age group (years old)					Fitness component	Age group (years old)	Age group (years old)					
		13	14	15	16	17			13	14	15	16	17	
Weight	13					0.001	40 m speed	13			0.012	0.001		
	14				0.022			14				0.009		
	15							15	0.012					
	16							16	0.001	0.009				
	17	0.001	0.022					17						
Height	13			0.040	0.004	0.023	Vertical jump	13				0.009	0.016	
	14							14				0.019		
	15	0.040						15						
	16	0.004						16	0.009	0.019				
	17	0.023						17	0.016					
BMI	13					0.015	Standing broad jump	13		0.001	0.004	0.001	0.001	
	14							14	0.001					
	15							15	0.004					
	16							16	0.001					
	17	0.015						17	0.001					
1 min sit up	13						Medicine ball throw	13		0.022	0.013	0.001	0.001	
	14							14	0.022				0.019	
	15							15	0.013					
	16							16	0.001					
	17							17	0.001	0.019				
Estimated Vo ² Max	13				0.006		Maximum push up	13			0.005			
	14							14						
	15							15	0.005					
	16	0.006						16						
	17							17						

Table 6.6 Results of post hoc (*p*-value) analysis summary—comparison of physical fitness component between female age groups 13 and 17 years old

Fitness component	Age group (years old)	13	14	15	16	17	Fitness component	Age group (years old)	13	14	15	16	17
Weight	13						40 m speed	13					
	14							14					
	15							15					
	16							16					
	17							17					
Height	13						Vertical jump	13			0.011	0.001	0.002
	14							14				0.047	0.035
	15							15	0.011				
	16							16	0.001	0.047			
	17							17	0.002	0.035			
BMI	13						Standing broad jump	13					0.004
	14							14					0.047
	15							15					
	16							16					
	17							17	0.004	0.047			
1 min sit up	13						Medicine ball throw	13					0.017
	14							14					0.038
	15							15					
	16							16					
	17							17	0.017	0.038			
Estimated Vo ² Max	13						Maximum push up	13					
	14							14					
	15							15					
	16							16					
	17							17					

all fitness component variables except vertical jump. There were no significant differences between 14- and 17-year-old age groups in all fitness component variables except vertical jump, standing broad jump, and medicine ball throw. There were no significant differences between 13- and 14-year-old age groups in all fitness component variables. There was no significant difference between 15-, 16-, and 17-year-old age groups in all fitness component variables. There were no significant differences between 13-, 14-, 15-, 16-, and 17-year-old age groups in all fitness component variables except explosive power fitness component (vertical jump, standing broad jump, and medicine ball throw).

6.4 Discussion

The result obtained from the current study implies that anthropometric characteristics (weight, height, and BMI) and selected physical fitness components (40 m sprint (speed), vertical jump (vertical explosive leg power), standing broad jump (horizontal explosive leg power), medicine ball throw (upper body power), maximum number of push-ups (upper body strength/endurance), 1 min sit-up (muscular endurance), and a yo-yo endurance level 1 test (aerobic fitness)) were significantly different between 13- and 17-year-old age groups, especially between lower and upper tier

groups (13 and 14 year olds) and (15, 16, and 17 year olds) male athletes. This trend is concurrent with the previous study, which has shown that age groups had a significant effect on every other measured variables except for the percentage of body fat and that of grip strength (Vänttinen et al. 2011). A study by Chuman et al. (2011) has shown that age also has an effect on yo-yo endurance level 1 performance between 13- and 17-year-old Japanese soccer players. However, a study by Cunha et al. (2016) has shown that maturity status showed no positive effect on cardiovascular endurance component when the data were properly normalized by training in young soccer players. Variation in several findings may show that other indicators such as quality and standardization of training may influence the performance outcome (Cunha et al. 2016). When puberty advances, particularly between 13 and 15 years of age, advanced boys have an advantage over average and later maturing peers in height, strength, and power. Nevertheless, maturity-related disparities between non-athletes and athletes diminished and were largely eliminated between 16 and 18 years.

However, data is minimal and variable for athletes (Malina et al. 2013). Late maturing soccer players aged 11–14 years, for example, performed better in aerobic tasks (intermittent shuttle runs), while contrasting maturity players did not differ in sport-specific skills (Figueiredo et al. 2009). However, female data have shown there were no significant differences between 13-, 14-, 15-, 16-, and 17-year-old age groups in all fitness component variables except explosive power fitness component (vertical jump, standing broad jump, and medicine ball throw). Although there is a wide range of normal ages, girls typically begin puberty around ages 10–11 and end puberty around 15–17; boys begin around ages 11–12 and end around 16–17 (Schuiling and Likis 2016). Girls reach sexual maturity approximately 4 years after the start of the first external puberty shifts. By comparison, after the first noticeable pubertal changes, boys develop more gradually but continue to grow for about 6 years. It is rare to see an increase in height beyond the post-pubertal period (Schuiling and Likis 2016).

6.5 Conclusion

In conclusion, the results of the present study suggest coaches and sports talent officer should consider age, gender, and type of physical fitness component during data analysis during a talent identification program. Combination of data between ages into one group between ages (13- and 14-year-olds), (15-, 16-, and 17-year-olds), and (14- and 15-year-olds) for future data analysis regarding physical fitness component can be done.

What did we learn from this study?

- i. A researcher can combine the data between ages into one group between ages (13- and 14-year-olds), (15-, 16- and 17 year olds), and (14 and 15 year olds) for future data analysis regarding physical fitness component.

- ii. Muscular endurance test such as 1 min sit-up and max push-up is robust and not influenced by age group difference, especially between lower and upper tier groups (13- and 14-year-olds) and (15-, 16-, and 17-year-olds).
- iii. A researcher can combine the data between ages into one group of female athletes between ages (13- and 14-year-olds), (15-, 16-, and 17-year-olds), and (14- and 15-year-olds) for future data analysis regarding physical fitness component.
- iv. A researcher can combine the data between ages into one group of female athletes between 13, 14, 15, 16, and 17 years for group analysis of various fitness components except for explosive power (vertical jump, standing broad jump, and medicine ball throw).
- v. Data show the influence of age on physical fitness maturity, which comes early for a female compared to a male within a gender group.

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Chapter 7

Performance of Local Hotels: A Case of the Malaysian Local Brand



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Abstract Brand performance is playing an important role in the hotel industry, particularly to the hotel representing Malaysian brand. Hence, the aim of this study is to investigate the factors influencing brand performance for Malaysian hotel. There are four factors tested, namely brand signature, brand attitude, brand awareness, and brand reputation, toward the brand performance. Data were collected using a self-administered survey at the premise. There were 322 valid questionnaires used for data analysis. Data were analyzed using SPSS. The result found that brand attitude, awareness, and reputation have a significant effect on brand performance. However, brand signature shows the insignificant effect on the dependent variable. Discussion, conclusions, and recommendations were also presented in the article.

Keywords Malaysian hotel · Brand performance · Quantitative analysis · Survey

7.1 Introduction

Sustainable Development Goals (SDGs) were introduced in 2015, and it has become the agenda of the development for ASEAN region until 2030. The aim for this agenda is to share prosperity in a sustainable world, where all people in the region can live productive, vibrant, and peaceful lives on a healthy planet (United Nations 2019).

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There are 17 goals identified in the agenda, with decent works and economic growths outlined as the eight (8) agenda (Department of Statistics Malaysia 2019a; United Nations 2019). One of the subcomponents in the eight (8) agenda is to promote sustainable tourism in the ASEAN region so that this industry is able to offer job creations, as well as to promote local culture and products by 2030.

Tourism is one of the main economic activities in ASEAN (ASEAN Secretariat 2017). The *ASEAN Tourism Marketing Strategy 2017–2020 Report* also highlights that this industry offers 30 million jobs for the community of the ASEAN in 2016, which contributed to 31 million jobs in the said year (ASEAN Secretariat 2017). Malaysia was reported as the second country in the ASEAN after Thailand that has attracted international arrivals approximately 6.8 million in 2020 (ASEAN Secretariat 2017). This report also further reported that, in order to sustain the attractiveness, ASEAN countries are urged to focus on developing the brand that focuses on local culture and products as one of the marketing strategies using marketing mix. Marketing mix has always been known as one of the powerful tools for developing marketing strategies for various types of industries, particularly to promote the local products and local brands (Khalique et al. 2011; Noraini et al. 2019). This suggestion from the *ASEAN Tourism Marketing Strategy 2017–2020 Report* is aligned with the aims of the eight (8) agenda of Sustainable Development Goals (SDGs).

Based on the above, this study was conducted to investigate how the local brand hotel influences hotel performance in Malaysia. There were four brand variables chosen to be included in this study, namely signature, attitude, awareness, and reputations.

7.2 Literature Review

7.2.1 *Hotel Performance in Malaysia*

Service sector like hotel industry in Malaysia is one of the most competitive businesses that has become a major player in the growth of the Malaysian economy. It plays an important role in complementing tourism as it provides accommodation and facilities for travelers and tourists. **In 2018, through domestic tourism, Malaysia achieved a higher record in the number of visitor arrivals and tourism expenditure.** There was a total of 221.3 million domestic visitors recorded in 2018 with a growth of 7.7% expected yearly. The report also exhibits that shopping activities contribute to the highest share of total expenditure, 37.6% of the total income (Department of Statistic Malaysia 2019b). This report is the evidence of the hospitality industry which is facing strong competition from the rapid technological turbulence, frequent changes in customer's needs and expectations, external environmental complexity, and volatility (Kaliappen and Hilman 2013).

In order to take advantage of the positive development in the industry, Malaysia has taken a move to introduce a local brand hotel, Hotel Seri Malaysia. Hotel Seri

Malaysia offers comfortable, clean, and safe rooms with other facilities like meeting rooms, laundry service, restaurants, and convenient stores at a reasonable price. In order to improve the performance and sustainability, “Soul of Seri Malaysia” becomes a new initiative for the re-branding of Malaysian Series to combine the values that will be applied to staff and customers of Hotel Seri Malaysia. It is hoped that the re-branding program will be able to gain market credibility and gain satisfaction among guests of the hotel (Hotel Seri Malaysia 2019).

7.2.2 Brand Performance

In the service industry, brand performance is a very crucial phenomenon to enhance customer retention and to develop brand loyalty. The hotel that shows has a good brand performance will be longlasting and stays competitive in the industry. Brand performance is defined as a form of corporate financial performance that is brought by the brand of the supplier and perceived by the buyer (Saurage-Altenloh 2017).

The brand performance can be used to measure how successful the brand is in the market and can be seen based on the size of the market share. For the service sector, brand performance also needs to consider human resources, quality, brand awareness, image, and other tangible factors (Santoro 2014). According to the Nyffenegger et al. (2015), the brand performance is also related to the guests’ emotions and cognitive route. The guests’ emotions are about how they feel with the experience of the brand, and the cognitive route is how the guests think about themselves with the brand.

7.2.3 Brand Signature

A signature brand is an original and cohesive design based on the company itself (Jennifer 2015). Brand signature is the most famous product that is produced by the company and shows the uniqueness of the firm. Signature design is based totally on persona and identification that is carried across all brands verbal exchange. In the hotel industry, the brand signature is the uniqueness of the hotel logo, interior design, food, and beverage that plays an important role. It could reflect a brand’s image and reputation, so brand signature also requires careful selection and understanding of the enterprise identification in phrases of name and brand of the company (Foroudi 2018).

A previous study found that the brand signature influences the brand performance because of the customer’s desire to pay a premium price and share wallet in the service sector industry (Casidy et al. 2018). On the other hand, a previous study conducted by Foroudi (2018) found that the brand signature did not have a direct relationship with the brand performance. The brand signature needs brand awareness as a mediating variable to influence brand performance. It will influence the guest awareness about the hotel’s brand, and brand awareness will influence the hotel’s brand performance.

The brand signature is a valuable asset to the company in developing the brand image or brand entity. Hence, the hypothesis is formulated as follows:

H1: There is a significant relationship between brand signature and brand performance.

7.2.4 Brand Attitude

Brand attitude or the customer attitude closer to the brand may be described as the customer's perceptions toward the business enterprise or brand (Foroudi et al. 2014). The customer's attitude to the brand can be changed over time, and it will affect the brand reputation and brand performance. The strength of the positive or negative association that a customer experiences is with regard to a particular brand and the conviction that the positive or negative association is accurate (Devault 2018).

The previous study by Foroudi (2018) found that the brand attitude has a positive influence on brand performance in the hotel industry. From another study on the airline industry, it was also found that the brand attitude influences the brand performance (Cheng and Jin 2019). Therefore, brand attitude plays an important role as a factor that influences the brand performance, especially in the service industry. Based on the discussion, the second hypothesis is outlined as follows:

H2: There is a significant relationship between brand attitude and brand performance.

7.2.5 Brand Awareness

Brand awareness can be described as the customer's memory of the brand store, which means the brand familiarity and brand recognizability. Brand awareness which is recognizability can be increased by the brand signature of the company such as products or services (Foroudi et al. 2017). The higher the brand awareness, the higher the possibility for the customer to purchase the product or services. Brand awareness is also a tool to generate the familiarity of the brand (Foroudi et al. 2014).

Brand awareness is important for the organization such as hotel because it helps the business to compete with the competitors in the same industry. It is also important to promote the product and company, introduce the new product, build a good reputation, differentiate from the competitors, and retain the loyal customer or guest (Sheridan 2017). Brand awareness influences brand performance because brand awareness can create brand loyalty among customers (Amegbe and Hanu 2016). An earlier study found that the brand awareness influenced the brand performance of B2B, and the brand awareness was one of the important components that has a positive impact on the brand performance of B2B (Anees-ur-Rehman et al. 2018). Therefore, the third hypothesis is as follows:

H3: There is a significant relationship between brand awareness and brand performance.

7.2.6 Brand Reputation

Brand reputation is customer assessment and instantaneous images toward the brand. According to Foroudi et al. (2017), brand reputation is fashioned as an aggregation of pictures, accumulating in customers' minds over time into an overall assessment of a company. The emotion of the stakeholder association can affect the image of the company. The reputation of the brand is a combination of reliability, administration, benevolence, respect, and confidence of the business enterprise.

A previous study found that the brand reputation can moderate the brand reputation which is related to the service failure and the customer evaluation toward the firm (Sengupta et al. 2015). Another study in the automotive industry showed that good brand reputation online through the platforms like Google, Facebook, Instagram, and YouTube increased the brand performance of the car brands (Dorčák et al. 2017). Nowadays, most customers search the information from the online website or social media when they want to purchase something, especially a luxury item. Therefore, the fourth hypothesis is as follows:

H4: There is a significant relationship between brand reputation and brand performance.

7.3 Methodology

This study primarily investigated the factors affecting the brand performance of Hotel Seri Malaysia, and it was conducted among the customers of this hotel. Data were collected using a self-administered survey between October and November 2018. G-Power software was used to estimate the sample for this study, as proposed by Cunningham and McCrum Gardner (2007). The number of the sample size required using a power analysis—a priori to compute the sample size (with five predictors and medium effect size of 0.15)—is 129. There were 322 questionnaires collected, and they were valid for further analysis. Hence, the data were sufficient enough to explain the framework tested for this study. The measurement consists of 33 items adapted from Foroudi (2018). There are several sections in the questionnaire. Section A was on respondents' demographic information, Section B was on brand signature, Section C was on brand attitude, Section D was on brand awareness, Section E was on brand reputation, and Section F was on brand performance. There were 33 items in the questionnaire. A five-point Likert scale was applied to measure the scale with one as "strongly disagree" and five as "strongly agree". Data were analyzed using the Statistical Package for Social Science (SPSS) version 22. This is a cross-sectional study conducted among customers of Hotel Sri Malaysia, Sungai Petani, Kedah.

7.4 Findings

The 322 respondents comprised of 58.4% females, while 41.6% were males. Most of the respondents were married (55.0%) and working in the private sectors (34.8%). They were all Malaysians with most of them aged from 20 to 29 years (35.1%), and the range of their income was from RM3000 to RM3999 (Table 1).

The reliability of the questionnaire ranges from 0.8 to 0.9, which indicates that it is appropriate to be used (Sekaran and Bougie 2013). The mean value for all dimensions shows that most respondents agree with the statements offered in the questionnaire. Table 2 shows Cronbach's alpha value, the mean, and standard deviation of the variables used in this study.

In order to achieve the objectives of this study, the data were analyzed using Pearson's correlations. Table 3 depicts strong relationship among all the independent variables, which are brand signature ($r = 0.655, p = 0.000$), brand attitude ($r = 0.758$,

Table 1 Demographics of respondents

Characteristics	Categories	Percentage ($n = 322$)
Gender	Male	41.6
	Female	58.4
Marital status	Single	40.7
	Married	55.0
	Divorce	4.3
Profession	Government sector	26.1
	Private sector	34.8
	Retiree	16.8
	Student	17.1
	Unemployment	5.3
Citizen	Malaysian	100.00
	Others	0.00
Age	Below 19 years	8.7
	20–29 years	35.1
	30–39 years	15.2
	40–49 years	19.3
	50–59 years	9.9
	60 years and above	11.8
Income	Less than RM1000	23.3
	RM1000–RM1999	13.4
	RM2000–RM2999	20.5
	RM3000–RM3999	24.5
	RM4000–RM4999	13.0
	RM5000–RM5999	5.3

Table 2 Reliability coefficients, mean, and standard deviation for the variables

Variables	No. of item	Cronbach's alpha	Mean	Standard deviation
Brand performance	8	0.930	4.210	0.639
Brand signature	8	0.916	4.487	0.554
Brand attitude	4	0.890	4.367	0.609
Brand awareness	6	0.908	4.193	0.640
Brand reputation	6	0.910	4.249	0.565

Note * $p < 0.05$, ** $p < 0.01$

Table 3 Correlation analysis

Variables	Brand signature	Brand attitude	Brand awareness	Brand reputation	Brand performance
Brand signature	1.000				
Brand attitude	0.745	1.000			
Brand awareness	0.638	0.681	1.000		
Brand reputation	0.657	0.766	0.804	1.000	
Brand performance	0.655	0.758	0.713	0.796	1.000

* $p < 0.05$; ** $p < 0.01$

$p = 0.000$), brand awareness ($r = 0.713, p = 0.000$), and brand reputation ($r = 0.796, p = 0.000$). In conclusion, all of the variables were significantly positively related to the hotel's brand performance.

A multiple regression test was conducted to understand the predicted power of the factors that affect the brand performance of Hotel Seri Malaysia. Table 4 shows the adjusted r^2 is 0.694, with a different weighting of the standard coefficient. Among the variables, brand signature shows there is no significant relationship with the hotel's brand performance, with a standard coefficient of 0.098. Meanwhile, brand attitude, brand awareness, and brand reputation were found to have a significant and positive relationship with hotel brand performance.

7.5 Discussion and Conclusion

The result of this study exhibited that three of four brand variables, namely attitude, awareness, and reputation, have significant relationships with brand performance. However, brand reputation appeared not to have a significant relationship

Table 4 Multiple regression results

Variables	β	t	Sig.
Brand signature	0.098	1.769	0.078
Brand attitude	0.303	5.201	0.000
Brand awareness	0.127	2.368	0.019
Brand reputation	0.472	6.935	0.000
R	0.875		
R square	0.697		
Adjusted R square	0.694		
F value	157.469		

Dependent variable: brand performance

Note * $p < 0.05$

with the dependent variable, brand performance. Brand performance for this study was reflected by the loyalty of the guests on the services provided by the hotel, credibility, positive perception, intention to repeat staying in the hotel, and willingness to recommend to others about the hotel.

Among the brand variables tested, the brand reputation showed the highest influence to brand performance. The items used to measure this variable were related to how guests perceived the service they received from the hotel such as whether the hotel service met their expectation, trust on the service provided, and how the hotel staff treated their guests. The result showed that guests were happy with the service provided by the hotel. Similar results revealed by previous studies found the importance of brand reputation to influence the performance, for example, brand reputation was able to moderate the relationship between the service failure and the customer evaluation toward the firm (Sengupta et al. 2015). Furthermore, the strategy to build brand reputation is able to increase brand performance in the automotive service industry (Dorčák et al. 2017).

The brand attitude was measured using items related to the feeling of the respondents on brand performance. Clearly, the respondents felt that they were proud to stay in the hotel, the brand is appealing, they enjoyed their stay, and the hotel offered good service. The result indicated that the respondents have a good brand attitude prior to making the decision to stay with the hotel. The result also further indicated that, among the guests of the hotel, attitude was the second important brand factor after brand reputation. This result also confirms the study by the previous scholars who found that brand attitude has a significant influence in the service industry including the hotel industry (Foroudi 2018; Cheng and Jin 2019).

Another brand variable tested was brand awareness. This variable was to measure if guests were aware of the hotel. It seemed that the guests were able to recognize the services offered by the hotel and to remember the differences of the offering if compared with another hotel. This is also important in the hotel industry to ensure that the local hotel brand is able to compete with international hotels with their own uniqueness, through local culture and products. The result offered similar results

from previous researchers who agreed that brand awareness is able to differentiate the products and services provided by different companies in the same industry (Sheridan 2017). Furthermore, the differentiation made through brand awareness will lead to brand loyalty among customers (Amegbe and Hanu 2016).

Overall, it can be concluded that the brand is crucial to any industry, including the hotel industry and the tourism industry as a whole. Clearly, brand reputation, brand attitude, and brand awareness are among the major brand factors that influence brand performance as a whole. Hotel Seri Malaysia, as the Malaysian local brand, has proven that the company is able to compete with international hotels of its own class through the inclusion of local cultures, products, and services offered by the company. The result of this study is significant to the brand developments of the local brands, particularly in the local hotel industry and the development of the brand strategies through local offerings and services.

From this study, Hotel Seri Malaysia is following the strategies highlighted in the *ASEAN Tourism Marketing Strategy 2017–2020 Report* and suggestions made by SDG to focus on the tourism industry as one of the solutions to create job offerings among local people, thus improving their incomes and economic state of the nation. Future researchers are encouraged to explore more related variables in the various local contexts in the ASEAN regions and how the brand strategy is able to facilitate the development of the nations through job offerings.

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Chapter 8

Interpersonal Communication Skill and Da'wah Fardiyah Approach in Sustainable Islamic Spiritual Mentoring



Noraini Ismail, Mardzelah Makhsin, Syuhaida Idha Abd Rahim, Basri Abd Ghani, and Nor Alifah Rosaidi

Abstract Islamic spiritual mentoring is a process of giving assistance to individuals or group of people to live their lives in accordance to the fate destined by Allah SWT. This is to help them achieve sustainable happiness in life here and thereafter. The methods often used for this purpose are known as interpersonal communication skill and da'wah fardiyah. As known, Islam has put an emphasis on interpersonal communication skill and da'wah fardiyah as effective strategies in the execution of Islamic spiritual mentoring. Nonetheless, in Islamic spiritual mentoring context, implementation of interpersonal communication skill cannot stand alone without being accompanied by skill of da'wah fardiyah. This is because interpersonal communication only aims at interpersonal needs and differs with the objectives in da'wah fardiyah. On the other hand, da'wah fardiyah fulfills not only the relationship between human interaction but also the vertical relationship with Allah SWT. Thus, this conceptual paper gives an overview of similarities, differences, and benefits in using interpersonal communication skill and da'wah fardiyah in implementing Islamic spiritual mentoring. Understanding and comprehending both of these approaches could create a balanced and guided interpersonal communication skill in creating sustainable spiritual mentoring for ones' better lives. This study was conducted using doctrinal and library researches.

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Keywords Islamic spiritual mentoring · Interpersonal communication · Da'wah fardiyah

8.1 Introduction

Islam is a deen of da'wah where each of its teaching needs to be transmitted to mankind. Thus, the existence of da'wah is really crucial for the religion to expand and excel. There are many methods used by ulama in introducing Islam to people. Islamic spiritual mentoring is one of the methods to build understanding and comprehension about Islam via mentor and mentee, and *da'wah fardiyah* or interpersonal da'wah is the most appropriate and sustainable one to be used. This method is similar to interpersonal skills used in mentoring system or mentor and mentee program. So this article intends to give an overview of similarities, differences, and comparison between these two concepts in implementing Islamic spiritual mentoring.

8.2 Spiritual Mentoring in Islam

Mentoring is a system to guide an individual or group of people led by a mentor and followed by mentee(s). Today, mentoring is essential not only in the educational and counseling field but also for the development of human resources. Apart from that, there is also mentoring system that focuses on spiritual aspect which is a part of human's needs and development (Miller 1999; Myers and Williard 2003).

Spiritual element is considered as the heart and soul of a religion, and it is also the religion's most central function (Zinnbauer et al. 2003). However, the implementation of spiritual mentoring is not solely for elevating comprehension on religious belief, but it has been used in managing organization, leadership, economy, and so forth. In addition, the purposes of spiritual mentoring are to support personal growth and provide a context that nourishes a mentee or protegee's spirit (Weinberg and Locander 2014). This element helps human to live a decent and harmonious life as a whole.

In Islam, spiritual mentoring is not a new concept. It has been practiced and sustained by Muslims in leading their religious life since the supremacy of Prophet PBUH. It can be seen clearly that Islam teaches its people to live with each other or in groups while practicing their religion. For example, Muslims are encouraged to perform their prayers in congregation based on the hadith, and this practice is equivalent to 27 times worth of deeds than performing the prayers individually. The same practice is followed for the prayers performed on Friday, Eid al-Fitr and Eid al-Adha, where Muslims gather at mosque to perform their prayers in congregation. Every year, millions of Muslims from all over the globe gather to perform their pilgrimage in Mecca (Ismail et al. 2010). The concept to live in congregation has been stressed in Islam, and it has connection with mentoring system where there is a leader (imam) and followers (makmum). A leader has a role to guide the people,

transmit the religion, taking care of the well-being and safety of people, command the good and forbid the bad (*amar makruf nahi munkar*), and so on. Meanwhile, a follower should obey the leader and follow his guidance based on the teachings of Quran and Sunnah.

There are many terms related to spiritual mentoring in Islam such as *halaqah* (circle) led by a *naqib* (mentor) who is responsible for spreading the knowledge or conduct discussion with the members or mentees. Muhammad PBUH initiated *halaqah* with his companions secretly (*da'wah bissir*) at the house of Al-Arqam bin Abi Al-Arqam. Apart from that, mentoring concept is also related to *hisba* in Islam. In *hisba*, a mentor is referred to as *muhtaseb*, and he is responsible for the well-being and safety of the members (Ismail et al. 2010). The implementation of mentoring in Islam is based on Islamic requisites from the Quran where there are a few rights to be considered: the rights with the Creator, among humans, and the rights of the Creator with the servants. Mentoring in Islam focuses not only on the management of life between humans but also the relationship with the Creator after one dies.

8.3 Interpersonal Communication Skill

Clark (1996) defined interpersonal skill as “basic setting” to human communication that happens face-to-face, and it involves two or more individuals or a group of people. According to Cangara (2012), communication between two people is known as dyadic communication. Meanwhile, small-scale communication refers to three or more people interacting face-to-face with one another.

Interpersonal communication between human can be in either written or verbal form. These could create a better and comfortable means of communication with different individuals at different situations. Nonverbal communications such as gestures and eye contact are also a part of interpersonal communication. Interpersonal communication can affect someone to share ideas, thoughts, desires, favorites, experiences, and undesirable things verbally or nonverbally. Effective interpersonal communication leaves a strong impact on someone in creating a close and fond relationship (Shukla and Dixit 2015).

8.4 Da'wah Fardiyah Approach

According to Syed Muhammad Nuh (2015), *da'wah fardiyah* is a face-to-face dialog with *mad'u* (target) or a small group of people who have specific characteristics or personalities. Mahmud (1995) defined *da'wah fardiyah* as an invitation or proselytization to Allah SWT carried out individually by *da'i* (preacher) to another person with the intention to transform *al-mad'u* to better circumstance which is granted by Allah SWT. Syukri (2007) explained *da'wah fardiyah* as a form of direct and

personal interaction between *da'i* and *mad'u* to transmit certain preaching which help the *mad'u* in various aspects of Islam. Gade and Don (2015) defined *da'wah fardiyah* as a prolific face-to-face communication between *da'i* and *mad'u* so that the response from *mad'u* on the preaching can be known within that time, may it be negative or positive, accepting or rejecting. All these definitions show that the skill used in *da'wah fardiyah* is interpersonal communication based on the teachings of Quran and Sunnah. It is meant to spread Islamic preaching and elevate understanding among Muslims.

8.5 Interpersonal Communication and Da'wah Fardiyah in Islamic Spiritual Mentoring

8.5.1 Interpersonal Communication

For sustainable spiritual mentoring implementation, interpersonal communication skill is the tool used in extending greeting between people, to create better relationship, influence others to do good and to avoid conflict. According to Devito (1991), there are three means of understanding the definition of interpersonal communication. The first one is the definition that looks at main components in communication (componential definition), which are sender, receiver, and feedback. The second one is the definition that explains the relationship between people who are close to one another or known as relation (dyadic definition). The last one is the definition that looks at interpersonal communication as the paramount of impersonal communication that leads to closer or intimate personal communication between humans (developmental definition).

Da'wah fardiyah uses an implementation that combines all those three approaches in interpersonal communication. This concept not only enforces the components of *da'i* (preacher), *mad'u* (target), and *maudhu'* (message given) but also does beyond that. *Da'wah fardiyah* is a process of creating intimate and sustainable relationship between *da'i* and *mad'u* that can generate positive changes for both parties.

The basic interpersonal communication skill is not based on the Quran and Sunnah. This is different from the approach by *da'wah fardiyah*, a theory or *da'wah* brought forward by ulama based on Quran and Sunnah. However, this difference cannot be used as a hindrance for both approaches to be used collectively. It is possible as long as it is not against Islamic practice. Thus, the usage of both approaches in Islamic spiritual mentoring is in sync, and they complement each other.

Interpersonal communication skill in Islamic spiritual mentoring is in sync with the approach in *da'wah fardiyah*, which is to create good relationship between human beings. This communicational method has been used since the supremacy of Prophet PBUH. According to Sakdiah (2016), interpersonal communication method was used as a strategy by Prophet PBUH to spread his preachings and implement spiritual mentoring, especially during the early phase of transmitting Islam. Muhammad PBUH

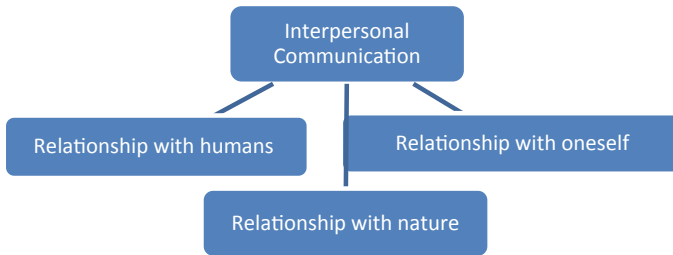


Fig. 8.1 The approaches in interpersonal communication

managed to deliver his preaching face-to-face to his family and his companions using interpersonal communication. In psychology, interpersonal communication can be carried out smoothly and effectively if both parties know each other.

However, interpersonal communication cannot represent *da'wah fardiyah* entirely. This is because in theory, communicational method in interpersonal skills is not based on *manhaj Islami* or *ilahiyah doctrine* as mentioned in the Quran and Sunnah. According to Basit' (2007), interpersonal communication which originated from the West is based on the orientation of relationship with oneself, between humans and nature. It is not vertical, does not commend the relationship with the Creator, and does not last. This makes interpersonal communication and *da'wah fardiyah* differ in terms of aim, object of delivery, and qualification of the preacher.

The aim of interpersonal communication is to gain amity in the relationships between humans, nature, and oneself. The object of delivery has nothing to do with *aqidah*, *ibadah*, and the life after death. Meanwhile, the aim in implementing *da'wah fardiyah* is to bring human to pious life that upholds the relationship with Allah SWT as the core business (Fig. 8.1).

8.5.2 *Da'wah Fardiyah*

The use of *da'wah fardiyah* in the implementation of Islamic spiritual mentoring is precise to the objective of Islamic spiritual mentoring, which is to create a deep understanding and comprehension on Islam to every Muslim. Apart from that, the main targets in *da'wah fardiyah* are not only in creating good relationship between humans (*hablun minan nas*), nature, and oneself but also in adhering to the relationship with Allah SWT (*hablun minallah*) which starts before birth (*ruh*). So, the use of *da'wah fardiyah* in Islamic spiritual mentoring will produce Muslims who are balanced *duniawi* (worldly) and *ukhrawi* (heavenly). Indirectly, this approach supports the concept of *Ihsan*: each individual needs to be aware that his or her action, speech, and thoughts are monitored by the Almighty (Ismail et al. 2010) (Fig. 8.2).

The use of *da'wah fardiyah* in the context of Islamic spiritual mentoring was started and is sustained since the sovereignty of Muhammad PBUH through the

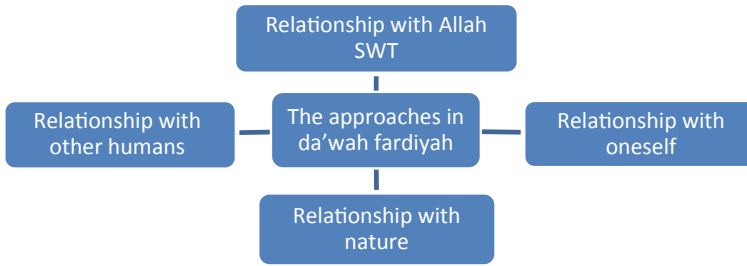


Fig. 8.2 The approaches in da'wah fardiyah

existence of mosques. Muhammad PBUH was a prophet, leader, *naqib*, and advisor in transmitting Islam, guiding and solving rising issues among the companions or ummah. The existence of mosques as an institution for people has opened up the space for creation and synergy of *halaqah* or mentoring system. His role was not restrained to transmitting his sermons to companions but reminding them to deliver his preachings to other people as well through da'wah. He wanted his companions to not only be mentees but also become mentors by sharing the knowledge learnt from him. This shows that mentoring system handled by Prophet PBUH focused on implementation, education, and guidance to produce mentees who are responsible enough to carry out the requisites in Islam (Ismail et al. 2010).

According to Sakdiah (2016), Prophet PBUH implemented interpersonal communication in his da'wah not for the sake of his personal benefit which was ephemeral. However, it was more on fulfilling the needs of *mad'ua* and fulfilling his task entrusted by Allah SWT. Thus, ulama debated that the use of communicational approach by Prophet PBUH was interpersonal da'wah or *da'wah fardiyah*. This shows that the two approaches are related and complement each other. Figure 8.3 shows the complementary relationship between the two approaches to ensure the objectives in implementing Islamic spiritual mentoring are achieved.

8.6 Conclusion

The implementation of interpersonal communication and *da'wah fardiyah* in sustainable Islamic spiritual mentoring is complementary. The aim is to focus on building the spiritual belief and living one's life believing in one creator, whereby interpersonal communication only focuses on interaction skills between humans, nature, and oneself. All of these cannot be segregated in the approach of *da'wah fardiyah*. Each mentor, who is responsible or in charge of Islamic spiritual mentoring, needs to master the skills to meet the objectives of the mentoring system. The sustainability of these approaches can be used to help human beings in creating a harmonious and better life.

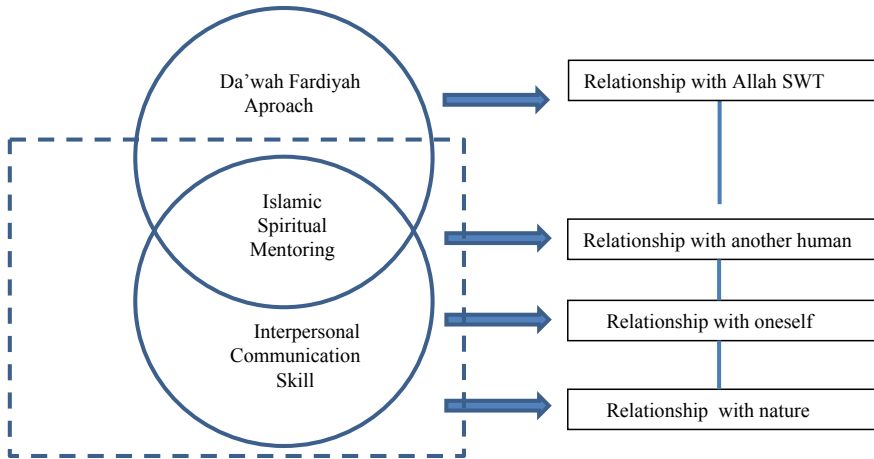


Fig. 8.3 The use of da'wah fardiyah and interpersonal communication in implementing Islamic spiritual mentoring

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Chapter 9

Persistent Poverty Based on Three Dimensions in HDI



Amirul Iman Mohd Jazid  and Patmawati Ibrahim 

Abstract Poverty is one of the global issues that never has an ending due to pockets of poverty, and this subsequently has led to the issue of persistent poverty. Persistent poverty means poor people stay in poverty within a period of time. By using the three dimensions in Human Development Index (HDI), quantitative method had been used to seek the one that has an effect on poor people, making it hard to get out of poverty and leaving them in persistent poverty. Respondents for this study are the poor population who received financial aid from anti-poverty agencies. The results obtained show that among the three dimensions, standard of living/economy aspect had the highest ranking in the Friedman test. In the meantime, the statement under standard of living/economy also shows that poor people found it really hard to save some parts of their income for retirement and emergency due to lack of resources. It can be concluded that standard of living for poor people was the one that makes it difficult to get out of poverty, and as a result, they remain receiving financial aid from anti-poverty agencies for a long time.

Keywords Persistent poverty · Human development index · Well-being

9.1 Introduction

While the number of people living under chronic poverty globally in other regions is falling rapidly, the number in few areas in Africa still remains high (The World Bank 2018). Poverty becomes more persistent to individuals who stay in that condition for too long. Mansur et al. (2013) stated that poverty should be solved immediately as it affects the country's economic growth. Due to the lack of income, households are

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unable to meet their basic requirements, which makes them barely achieve the ideal standard of living.

Persistent poverty is a situation where individuals cannot get out of poverty for a long time. Hill (1985) looked at persistent poverty through various perspectives. One way is to observe the status of an individual's poverty for several years within a period of time, and then see how many years the individual is in poverty. If the individual was poor throughout the year, it was clear that the individual is in persistent poverty. In addition, getting trapped in poverty also can lead a person to experience persistent poverty (Lade et al. 2017), and this also inhibits the government's capacity to eradicate poverty thoroughly. In defining the actual period of persistent poverty, it leads to some definitions from previous researchers. Mood (2015) explains that in order to translate the concept of persistent poverty, it requires observation for a certain period of time. It can be taken from the date the poor individual is interviewed, for example, as in Valletta's (2006) study which illustrates the shift of poverty to persistent poverty in a 6-year observation period. If the poor are in poverty for six consecutive years, it is considered as persistent poverty. In fact, putting a period of observation in a study to see the pattern of persistent poverty is more reliable than measuring the pattern of poverty at a single point of time.

According to an article released by the Office for National Statistics (2017), 7.3% of the UK population, which is equivalent to nearly 4.6 million people, is experiencing persistent relative poverty for 2–3 consecutive years. Relative poverty in this case means individuals with less than 60% of the country's median income for the year suffer from poverty for 2–3 consecutive years of observation. Also, McGuinness (2018) described relative poverty is experienced by those with less than 60% of the country's median income for 3–4 consecutive years. Furthermore, he has also proven that persistent poverty in the UK was very alarming during 2012/13 and 2015/16, since 9% of individuals suffered from persistent poverty, and it was even more worrying when it involved pensioners and children who were more vulnerable to persistent poverty as they lacked sufficient resources and income.

However, poverty cannot be measured by income level only. According to Biewen (2014), the government should pay attention to the poor who are in and out of poverty several times because this is also one of the reasons they stay in poverty for a long time. He further argued that the government needs to understand individual characteristics of the poor as there are other aspects that can be addressed to assess persistent poverty. On the other hand, the Poverty Line Income (PLI) results show different standards of living, where there are slight differences between urban and rural areas (Nair and Sagarin 2015). Poverty is not based on only income level, as even economists now argue that a multidimensional approach is needed to change the environment. Poverty should be covered and viewed from a wide area. Alkire and Santos (2011) explain that individuals' income could not be taken as a sole source in identifying poor people as they might have enough income but lack other resources like education, health, housing, empowerment, employment, and personal security.

9.1.1 *Impact of Poverty on HDI Dimensions*

As poverty has been measured using a multidimensional approach, the indicator that shows an impact on poor people must be from a wide perspective and must not dependent on a single factor. Earlier, Anand and Ravallion (1993) argued that well-being has to do with “being well,” which in the most straightforward terms is about being able to live long, being well-nourished, being healthy, being literate, and so on. Besides, development from the perspective of Jahan (2002) highlights poverty as not about economic performance alone, but crucially about the people and their well-being. Other than that, the country’s economic growth should not be the end product to be achieved per say, as it is also aimed at enhancing people’s lives. When poverty comes in, it will distract the development of its people as well as the country.

Sagar and Najam (1998) said that the alternatives that we have to look up in our life can be infinite and can also revolutionize over time, but health, knowledge, and standard of living are the ultimate necessities at all levels of development. Sagar also stated that distribution of country’s performance is significant because of the development. Since the measures of HDI are very important to capture the growing inequality in human development, they add more indices to ensure the distribution of well-being for inequality, gender equity, and poverty.

Education. Education is the key to change, to reduce poverty, and also to support development. More than 200 children below 5 years of age face a stagnant development because of psychosocial factors such as early childhood education, parenting practices, and exposure to violence as well as biological factors like growth restriction, undernutrition, and transmittable disease (Tran et al. 2016). Education poverty studied by Nawaz and Iqbal (2016) in Pakistan shows that the literacy rate was far different from MDG target with a 30% gap difference. The completion/survival in school was also different from MDG target, and it shows majority of households in Pakistan were deprived of attaining education. This was due to the lack of education facilities and insufficient household income that resulted in their inability to pay for basic education. They were less prepared or even not prepared at all for school. This also led to the inability to integrate (Mihai et al. 2015). Besides that, majority of the poor families could not cope with the financial shocks, and due to that, some of their children had to quit school in order to earn money and help out their family.

In order to succeed in school, every child should have the ability to perform both academically and socially. According to Ferguson et al. (2007), there are six poverty-related circumstances that could impact child development in general and also in school readiness; the poverty rate, seriousness, length, and timing have an impact on the child’s social network. HB Ferguson also argued that children from low-income families often do not obtain, or otherwise know, how to learn the social skills to make them prepared for school. A report by Willms (2003) and Thomas (2006) states that children from lower income households had lower achievement in vocabulary, communication skills, number knowledge, copying and symbol use, self-regulation, independence, and self-control behavior compared to children from higher income household. It is proven that poor children have some disadvantages

with the education system in school (Ferguson et al. 2007). Meanwhile, a study by Awan et al. (2011) in Pakistan shows that the higher the level of education the population can obtain, the lesser the number of poor people, as the education level helped to increase their income earning.

However, Bramley and Karley (2007) mentioned that poverty also can affect the educational achievement in three scopes. The first one is from the resource-side where all the financial and learning resources will be affected. The second is the mindset of the poor people who are always thinking they cannot perform well in academics because of their surrounding, and lastly when poverty affects the institution itself, it will ruin the teaching standards. A report by British Columbia Teachers' Federation (BCTF) (2016), when asked about priorities in advocating for the needs of students who were experiencing poverty, stated that most of them needed a teaching support to address their learning gap. Most of the respondents in the study also responded for an increase in funding programs that can support poor students in building their level of readiness in school.

The problem also occurs when there is high indirect cost in education, and this might be the reason why parents in poverty could not afford to send their children to school. As mentioned by Yi et al. (2012), there are many indirect costs to be paid by parents and this could hinder the opportunity for their kids to study further. The indirect costs are like transportation fees, extra classes fees, as well as uniform fees. In the short run, households with low income view more loss when their children attend school (Julius 2015). In contrast, education from Maiyo's perspectives is also important for economic growth and performances. When there is a lack of adequate skills from education, there will be limitation on the growth of countries. We can see this in poor countries, where their labor force may lack in basic literacy and numeracy skills.

Standard of Living/Economy. The impact of poverty on economy is very significant. It can really affect the growth and economic performances. To understand the impact of economic growth on poverty, Kakwani (2001) stated that it is important to measure separately the changes in terms of average income and also income inequality on poverty. Sala (2014) proved that poverty is an obstacle for economic growth. Other than that, Laura also mentioned that the reason for the absence in growth and persistent poverty is because the income levels of certain regions remain low, and they are considered to be consistently stuck in perpetuate poverty.

In addition, inequality is also one of the reasons for low economic growth. Some previous papers by Galor and Zeira (1993) and Galor and Moav (2004) pointed out that inequality will affect economic growth in terms of depriving the poor from staying healthy and developing human capital. Hence, it is because of inequality also that the process of development will be changed. Forbes (2000) finds that inequality can lead to an increase in economic growth in the short and medium terms. Empirical findings by Halter et al. (2014) also matched with some of the theories that highlight higher inequality can greatly affect the economic performance but for a short term, it can reduce the growth rate of GDP and per capita in the future. In the end, the effect of higher inequality tends to be negative. To make sure people can escape from poverty, each member of a household should get enough resources to make sure they

can invest into something and is able to build investment for the children's development, helping in academic and social proficiencies (Conger 2005). According to the authors, financial stress faced by the household probably could disturb the children's growth development, as Chaudry and Wimer (2016) proved that children from poor backgrounds are more likely to be stagnant in the growth in terms of education, health, and others as compared to children from a better family background. However, we should also take a look at the number of old populations. Lack of earnings will affect the standard life of an individual. Poverty and economic strain affects the ability of individual, for example, in searching for jobs, not having enough income, difficulty in fulfilling the basic needs, and having a standard life (Murray et al. 2015).

Haushofer and Fehr (2014) explained that poverty disturbs one's economic trend. They added that poverty also disrupted one's behavior to get out of poverty due to the lack of resources they faced. They also believed that a strong economic status can lead one to happiness and satisfaction in life. This is proven in the study conducted by Adamkovic and Martoncik (2017) that someone who had low resources and lived in poverty was consistently forced to deal with stress and was always worried of his financial status. This is similar to what happened in some African countries, where the economic movement in the country is declining as poverty, unemployment, and inequality are rising (Oluwatayo and Ojo 2018). In fact, there are some other things also that messed up economic growth in Africa apart from poverty, such as infrastructure deficits, corruption, national security, and sole dependence on a source. Therefore, household or individual economic growth is very imperative.

Besides that, having financial difficulties and poverty later would also affect the social, physical, and developmental needs of children and families. A report by Mokhzani (2016) stated that in Malaysia, only 10.8% of households were able to survive when economic shock happens because of a few factors, namely unemployment, physically inability, mortality, and changes in economic trend. Ng et al. (2018) mentioned that individuals who earned less than RM2000 in 2016 spent almost 95% of their income, and they literally did not have any saving. Even if they had, the saving decreased from RM124 per month in 2014 to RM76 per month in 2016. Moreover, accelerated population aging in developing countries also gives some implications to poverty. This economic hardship gives an undesirable effect on parents' emotions, behaviors, and relationship which affect their parenting strategies. All of these resources including both cash and non-cash incomes determine the economic well-being of households in all nations (Smeeding et al. 1993).

Healthcare. People who are stuck in poverty for a period of time will have problem in getting proper healthcare due to lack of resources. According to World Health Organization (WHO), investing in health will help reduce poverty. Indeed, three of the Millennium Development Goals (MDGs) appeal for health improvements. Besides that, at least half of the world's population cannot acquire health services and some of them are being pushed into poverty because they have to pay for healthcare out of their own pockets (World Health Organization). These people have higher average maternal mortality, higher level of disease, and more limited access to healthcare due to limited sources of income, and they even die younger (Grant 2005). Grant

also said that ill-health can be such a catalyst for poverty, and in turn, poverty can perpetuate poor health status.

According to Philip and Rayhan (2004), there is another aspect of poverty which makes it difficult to escape, that is vulnerability, where the poor are more vulnerable than any other group to health risks and economic down-turns. A few case studies also show that interaction between poverty and vulnerability is directly connected. When poor people face climate changes, floods and droughts, or HIV/AIDS, they would be affected, especially the vulnerable ones. It is even robbing their ability to contribute and participate in the society (Kaplan 2009). Most of the individuals in the poor countries also have lower lifespan than advanced countries. This is because individuals in poor countries are more susceptible to the spread of the disease, with the unbalanced diet, unhealthy lifestyle, and bad surrounding environment which can be considered as the factors of their low life expectancy. Differences in social style, economic trends, and political background of an individual reflect the level of health services they will use (Trani et al. 2010; Balarajan et al. 2011). The poor who have education but do not manage to excel also fail to get good health services.

Moreover, World Bank Group has voiced out what poor people feel. It is revealed that the problems such as lack of food, lack of safe water, poor drainage, unstable areas, and disability are the causes of their diseases and illnesses. They cannot reach any healthcare because they lack proper resources (Swartz 2009). Shortage of nurses in poor areas, low level of awareness on medical needs, and inability to explain their health condition are the reasons poor people are getting trapped along with their existing health problems. Besides that, the cost of getting healthcare is also one of the problems for the poor. NCOSS (2016) conducted a survey, and it was proven that the cost was the most frequent barrier for the poor in getting their health services attended. It even affected most of the respondents who received career allowance and disability support pension. Half of the respondents indicated that they could not access the services, medicine, or other support just because they really could not afford it. High out-of-pocket expenditure is one of the major factors in increasing the cost of health services that ultimately impact on their inability of paying healthcare bills (Swartz 2009).

Orentlicher (2018) said that income probably has a greater effect on health compared to health on income. If people get sick and they lack resources like insurance, they do not receive adequate healthcare, and as a result, they get sick easily, they cannot work, and their income will drop. Physicians for Fair Coverage (2018) reported that the high cost shifts in getting healthcare services were among the poor. Majority of the patients need to spend few dollars out of their own pocket before they get their actual healthcare plan. The actual healthcare plan is dependent on the individual's income gap. They spend a few dollars because they cannot afford to get life insurance. Life insurance is actually an investment that can cover and support them in a long term. However, the problem happens when the households are stuck in poverty, and they cannot even invest for life insurance. Manik (2017) said that only four out of 1000 people had an insurance policy, while only 35% of low-income households

held life insurance policy, but the coverage was not large enough to support them for a long term (Brobeck 2017).

Several researchers also state that a higher income usually would have longer life expectancy (Dickman et al. 2017; Chetty et al. 2016). The difference in life expectancy gap between the rich and the poor is up to 1% now. Wealthy persons receive adequate healthcare, while the poor are stuck with poor health because they cannot afford the healthcare services. This is also shown by the differences of frequency of getting treatment shortly after getting sick between poor children and those who come from a capable family (Schellenberg et al. 2003). In addition, many patients cannot afford the healthcare they need and always forgot the medical care altogether. These were the reasons why people in the middle-class had medical bankruptcy (Himmelstein et al. 2009). Based on the demographic characteristics, most debtors had slightly lower incomes, educational attainment, and occupational prestige scores, and more were married and fewer were employed—reflecting to their disability.

9.2 Methodology

This study aims to explain the impact of poverty on Human Development Index (HDI). Basically, HDI consists of three indicators to measure poverty, which are education, standard of living, and healthcare. Each indicator shows that poverty not only depends on income but also many other factors that possibly affect people who are considered poor. It is important to have a systematic method in conducting a research. So, quantitative data had been used in this study. Questionnaires were spread out among poor in designated areas. The authors focused on poor people who received financial aid from anti-poverty agencies like *zakat* institution and *Jabatan Kebajikan Masyarakat*. The items in the questionnaire also covered the time duration of receiving the aid so that the authors could get the real number of people from the poor populations that can be considered as in persistent poverty. In addition, this questionnaire also includes items related to factors contributing to persistent poverty. The items were developed based on Likert scale. Respondents were selected using non-random sampling, and 328 peoples in Muar were selected through two agencies. For analyzation, SPSS has been used to determine the frequency, mean, and median for every item in questionnaires. Next, the Friedman test begins by rank-ordering the measures for each dimension in HDI. It is used to test the differences between groups when dependent variables measured are ordinal. For example, “3” is the highest of a subject’s three measures, “2” is intermediate, and “1” is the lowest.

9.3 Results and Discussion

Table 9.1 shows the statement related to the standard of living/economic of the poor who were getting trapped in poverty. Due to financial difficulties faced by the poor, a majority of 52.3 and 51.5% of them agreed with the statement on their low monthly income as well as inadequate income to support their families. In the meantime, with the effects of inadequate income to support their families, women need to go to work in order to support their husbands. Therefore, it can be seen that 31.9% of the respondents agreed with the lack of resources requiring women to work. Furthermore, the poor also realized that it was difficult for them to grab any employment opportunities, and this is the reason why they had to work overtime and do more than one job.

In addition, 71.5% of these poor people agreed that they spent according to their financial capability. Similarly, due to lack of income sources, it is difficult for the poor to keep part of their wages for emergency use and pensions. That is why 64.6 and 80% of the respondents strongly agreed with the statement. Besides that, 53.5% of the respondents were less exposed to money management techniques, and this makes them difficult to save some of their income for future use. The findings show that the economic or standard of living dimension was the main contributing factor

Table 9.1 The frequency of each statement for standard of living/economy dimensions

Statement for standard of living/economy dimension	Frequency (%)	
1	Lower income	52.3—strongly agree
2	Income not sufficient to support whole family	51.5—strongly agree
3	My wife need to work to support family	34.2—agree
4	Difficult to grab suitable job	65.4—strongly agree
5	Work overtime	50.8—strongly agree
6	Do more than one job	45.4—agree
7	Spending according to ability	71.5—agree
8	Cannot buy other things after paying bills	54.6—neutral
9	Bill payment was overdue	52.7—neutral
10	Difficult to separate income for emergency	64.6—strongly agree
11	Difficult to separate income for retirement	80.0—strongly agree
12	Facing with debts	54.2—not agree
13	Keep worrying how to pay debts	41.5—strongly not agree
14	Less exposed on money management	53.5—agree

Table 9.2 Mean ranking for HDI dimension

	HDI dimensions mean ranking
Standard of living/economy	3.00
Healthcare	1.59
Education	1.42

for the poor to remain in poverty. Individuals who were experiencing poverty in life feel that the economic factors were the ones that prevent their ability to participate and compete in the society.

Aside from that, Friedman’s tests on the three dimensions of the Human Development Index (HDI) as in Table 9.2 show that the economic aspect got the highest mean rank value, and this proved that the economic aspects were the main reasons why poor people hardly get out of poverty. Looking at the Likert scale on economic dimensions, the majority of the respondents agreed with the fact that it is difficult for them to get the right job opportunities to support their families. As (Paul et al. 2018) said, joblessness is the main cause of poverty, but those who worked also cannot escape from poverty because it was not enough to help them get out of poverty.

In fact, those who suffered from poverty need to work overtime and do more than one job, although their wives also had to work to support the family. This study also supported (Rahman 2017) which explains the financial challenges faced by the urban poor households. According to the report, the rising cost of living has led the poor households to feel the burden because the income earned was insufficient and some was just enough to meet their basic needs, but not for savings or other passive investments.

9.4 Conclusion

There are a lot of things that need to be done in alleviating poverty. Poverty also should be measured from different angles so that it can be minimized thoroughly as the vision of World Bank is to reduce poverty by half before 2030. Even the concept of persistent poverty needs to be exposed to the citizens in Malaysia so that they are aware with the impact of poverty. For the factors contributing to persistent poverty based on the dimensions, the economic aspects are the biggest challenge for persistently poor people to get out of poverty due to the lack of monthly income sources that individuals cannot afford to meet their household needs. This proves that lack of income sources also affects other aspects including education and health. Thus, poverty alleviation agencies are responsible for the welfare of the poor by providing them with some form of entrepreneurial concepts to assist in the economic recovery of the poor. This study also can serve as a useful guideline for anti-poverty agencies on the application of human development index in alleviating poverty.

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Chapter 10

Issues and Challenges Contributing to Complexity in Infrastructure Project Performance



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Abstract The objective of this paper is to identify the complexity factors affecting infrastructure projects in order to evaluate the relationship that is significant between complexity factors and project performance in infrastructure projects during the pre-construction stage based on time. This paper draws on existing research and the observations of previous studies and identifies the outlines to produce a greater consideration of the issues or factors of complexity affecting project performance in the construction industry, especially in infrastructure projects. A systematic literature review process is used to determine the most significant issues, challenges, and factors affecting infrastructure project performance in relation to time. The results are expected to lead toward a conceptual framework for integrating complexity assessment for infrastructure projects and a model in improving project performance for complex infrastructure projects. This research paper has been undertaken as part of an overall research project which aims to develop a complexity model in order to identify the most significant factors contributing to complexity and to develop a theory and model of complexity assessment for infrastructure projects. A pilot study was carried out based on 37 respondents' feedback to determine the level of importance of these factors using the relative importance index (RII). This study contributes to the theory of integrating complexity assessments for infrastructure projects in construction life cycles and a model to integrate construction project management using complexity assessments during the pre-construction stage. It will also contribute toward the Eleventh Malaysia Plan in the construction industry, especially in infrastructure projects.

Keywords Issues · Challenges · Complexity factors · Infrastructure project performance

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10.1 Introduction

There exist many definitions of complexity. Yong and Othman (2018) stated that project complexity is a crucial problem as it is closely connected to the project management process predominantly for the construction industry. The Collins English Dictionary (2006) defines complexity as “the state or quality of being intricate or complex,” where complex is defined as “made up of many interconnecting parts” (Wood and Gidado 2008). Complexity is a wide-ranging topic which can relate to any subject.

In fact, the problems that occur in construction projects before and during construction may be considered as the main factors that contribute to project complexity. The construction industry is complex in nature because it involves a large number of parties such as owners (clients), contractors, consultants, stakeholders, and regulators. Despite this complexity, the industry has a major role in the growth and achievement of society’s goals. It is one of the largest industries and contributes about 10% of the gross national product (GNP) in commercial countries (Navon 2005). However, many local construction projects report poor performance due to many evidential project-specific causes (Enshassi et al. 2009).

According to Cheung et al. (2004), project performance can be measured and evaluated using a large number of performance indicators that could be related to various dimensions (groups) such as time, cost, quality, client satisfaction, client changes, business performance, health, and safety.

The main aim of this paper is to identify the complexity factors affecting infrastructure projects in order to evaluate the relationship that is significant between complexity factors and project performance in infrastructure projects during the pre-construction stage based on time.

10.2 Literature Review

Complexity can be derived into project and process complexity. According to Cardoso (2006), process complexity is defined as “the degree to which a process is difficult to analyze, understand or explain.” Wood and Gidado (2008) stated that complexity can be difficult to define as it has a number of different meanings. According to Wood and Gidado (2008), the application of complexity to the construction industry is not widely researched; however, some evidence has been found that the process of construction can in itself be thought of as a complex system. It has been proven by Baccarini (1996) that the construction process may be considered the most complex undertaking in any industry, and lately the construction industry, has been having great difficulty in coping with the increasing complexity of major construction projects.

As reported by Mills (2001), the construction industry is one of the most dynamic, risky, and challenging industries. It has a very poor reputation for managing risk,

with many major projects failing to meet project performance requirements. This is supported by Wood and Gidado (2008) who stated that project success in terms of cost, time overruns, quality, performance, and safety is historically poor in the construction industry due to the design and construction processes being particularly complex. According to Rahman et al. (2013) and Masrom et al. (2015), a successful project meets the requirements of time, costs, quality, performance, and safety. The effectiveness of performance measurement is an issue of growing importance to industrialists and academics alike. Cost, schedule, and quality are the traditional performance areas in construction projects.

In general, construction projects including road infrastructure projects are all made up of many interconnecting parts which fit well with the definition of complexity. However, previous studies on complexity in construction projects are very limited, with most studies focusing only on the conceptual factors that contribute to complexity in the construction industry (Wood and Gidado 2008; Baccarini 1996; Williams 1999; Sinha et al. 2006; Brockmann and Girmscheid 2007; Pitsis et al. 2004).

Luo et al. (2017) summarized that there are many types of project complexity (Table 10.1).

Table 10.1 Types of project complexity

Researcher (year)	Types of project complexity
Baccarini (1996)	Organizational complexity (the vertical and horizontal differentiation, and the degree of operational interdependencies and interaction among the project organizational elements) and technological complexity (the variety or diversity of some aspects of a task, and interdependencies among tasks and teams)
Maylor (2003)	Organizational complexity (including the number of members, departments, organizations, regions, nations, languages, time zones, level of the organization, and power structure), technological complexity (including technology, innovation system, uncertainty of the process or demand), and resource complexity (including project scale and budget size)
Geraldi (2008)	Complexity of fact (refers to the complexity in dealing with a very large amount of interdependent information), complexity of faith (refers to the complexity involved in creating something unique or solving new problems), and complexity of interaction (interfaces among systems or locations of complexity)

(continued)

Table 10.1 (continued)

Researcher (year)	Types of project complexity
Girmscheid and Brockmann (2008)	Task complexity (density of activities in a spatial and temporal frame), social complexity (number and diversity of actors), cultural complexity (diversity of the cultural human mindset), operative complexity (the degree of independence when defining operations to achieve given goals), and cognitive complexity (the level of a person or a group)
Remington and Pollack (2007)	Technical complexity (interconnection among multiple interdependent solution options), structural complexity (difficulty in managing and keeping track of the large number of different interconnected tasks and activities), directional complexity (ambiguity related to multiple potential interpretations of goals and objectives), and temporal complexity (uncertainty regarding future constraints, the expectation of change, and possibly even concern regarding the future existence of the system)
Bosch-Rekvelde et al. (2011)	Organizational complexity (including size, resources, project team, trust, and risk), technological complexity (including goals, scope, tasks, experience, and risk), and environmental complexity (including stakeholders, location, market conditions, and risk)
Senescu et al. (2013)	Organizational complexity (organizational multiplicity and organizational openness), product complexity (quantity of building components and level of detail at which building components are considered by the project team), and process complexity (process interdependence and process causal connections)
He et al. (2015)	Organizational complexity (involves project staff, organizational structure, and various teams), technological complexity (building type, overlapping of design and construction works, and dependency on project operation), goal complexity (various project participants' requirements, project task complexity, and limited resources), environmental complexity (the complexity of the context in which a project operates, such as the natural, market, political, and regulatory environment), cultural complexity (the diversity of the cultural human mindset), and information complexity (complicated communication among a great number of project stakeholders under complicated contractual arrangements)
Lu et al. (2015)	Organizational complexity (amount and complexity of organizational members and complexity of organizational structure) and task complexity (amount and complexity of task and complexity of dependency among tasks)

(continued)

Table 10.1 (continued)

Researcher (year)	Types of project complexity
Nguyen et al. (2015)	Organizational complexity (contractual conditions, number of contract/work packages, coordination of stakeholders, and project planning and scheduling), technological complexity (characterized by the variety of technologies employed and technological newness of the project), sociopolitical complexity (including administrative policies/procedures, number of applicable laws and regulations, local experience expected from parties, and influence of politics), environmental complexity (local climatic conditions, geographic conditions, and environmental risks), infrastructural complexity (site compensation and clearance, transportation systems, and qualifications required for contractors), and scope complexity (ambiguity of project scope and project size in terms of capital)

Source Luo et al. (2017)

10.3 Methodology

A pilot survey questionnaire was developed to measure and verify the completeness of the questionnaire in capturing the relevant complexity factors that most affected the performance of infrastructure projects. The pilot survey questionnaire was given to the clients, consultants, contractors, sub-contractors, and other parties who are involved in infrastructure projects to get their input on the complexity factors that affected the performance of infrastructure projects based on time during the pre-construction stage. The questionnaire was divided into three parts. The first part was a demographic study of the respondents.

The second part of the questionnaire focused on the complexity factors that affected the performance of infrastructure projects based on time during the pre-construction stage. The respondents were asked to highlight the complexity factors that affected the performance based on their working experience related to infrastructure projects with a five-point scale (1: Strongly disagree, 2: Disagree, 3: Agree, 4: Much agree, 5: Strongly agree).

The third part of the questionnaire focused on effective mitigation plans for the impact of critical complexity on project performance in infrastructure projects.

10.3.1 Data Analysis

This paper used the reliability test and relative importance index to analyze the data. Kometa et al. (1994) and Sambasivan and Soon (2007) used the RII method to determine the relative importance of the various causes of delays. The same method

was adopted in this study. RIIs are calculated for each factor as in Eq. (10.1):

$$RII = \sum W/(A * N) \quad (10.1)$$

where RII = relative importance index, W = weighting given to each factor by respondents (ranging from 1 to 5), A = highest weight (i.e., 5 in this case), and N = total number of respondents. The RII value had a range of 0–1 (0 not inclusive); the higher the RII, the more important the complexity factor that affected performance based on time. The RIIs were then ranked, and the results are shown in Table 10.5. Calculating the average RIIs of the causes in each group gives the RIIs of the mean groups. The mean RIIs and the ranking of all groups are also shown in Table 10.5.

The purpose of each method and its results are explained in the results and discussion section.

10.4 Results and Discussion

10.4.1 Respondents

In total, 37 respondents returned the completed pilot survey questionnaires giving a response rate of 25.9%. The response rate is reasonable since most of the surveys done in Malaysia generate a rate that falls between 10 and 20% (Ramayah et al. 2005; Ainin et al. 2010).

The demographic characteristics of the respondents are given in Table 10.2.

10.4.2 Reliability Test

A reliability test using Cronbach's alpha coefficient was conducted to measure the internal consistency of the specific factors under study. Table 10.3 shows the results for the reliability test of the complexity factors affecting the performance of infrastructure projects based on time during the pre-construction stage (design stage, tendering stage, and contract award stage).

The results reveal that all the complexity factors are acceptable. The most reliable complexity factors affecting performances based on time during the pre-construction stage are insufficient study on construction ability and feasibility with a value of 0.925 (design stage); award to low bid that is qualified or non-compliant with a value of 0.968 (tendering stage); and a contractor, supplier, or service provider challenges the procurement process with a value of 0.959 (contract award stage). Hence, these factors shall be further used in the following analysis.

Table 10.2 Demographic study of respondents

	Frequency	Percentage
<i>Respondent's background</i>		
Client	8	21.6
Consultant	15	40.5
Contractor	8	21.6
Sub-contractor	1	2.7
Others	5	13.5
<i>Respondent's position</i>		
Project director	1	2.7
Project manager	4	10.8
Contract manager	2	5.4
Design manager	0	0
Project engineer	11	29.7
Construction manager	0	0
Risk manager	0	0
Site supervisor	1	2.7
Quantity surveyor	1	2.7
Others	17	45.9
<i>Respondent's working experience</i>		
<5 years	11	29.7
6–10 years	11	29.7
11–15 years	8	21.6
16–20 years	2	5.4
>20 years	5	13.5
<i>Type of sector</i>		
Public sector	11	29.7
Private sector	26	70.3

Table 10.3 Reliability tests of complexity factors affecting performance of infrastructure projects based on time during pre-construction stage

Independent variables	Cronbach's Alpha
Insufficient study on construction ability and feasibility (design stage)	0.925
Award to low bid that is qualified or non-compliant (tendering stage)	0.968
A contractor, supplier, or service provider challenges the procurement process (contract award stage)	0.959

Table 10.4 Normality tests for complexity factors affecting performance in infrastructure projects during pre-construction stage

Variable	Skewness		Kurtosis	
	Statistic	Standard error	Statistic	Standard error
Design stage based on time performance	-0.344	0.388	0.332	0.759
Tendering stage based on time performance	-0.200	0.388	-0.299	0.759
Contract award stage based on time performance	-0.021	0.388	-1.170	0.759

10.4.3 Normality Test

In this study, the normality of the variables was proven by evaluating the data distributions for skewness and kurtosis. The standard error is the range of possible errors occurring in data (good standard error value <1.0).

Table 10.4 shows the values of the standard errors for skewness and kurtosis are 0.388 and 0.759, respectively. Both values indicate that the standard errors are good values (<1.0). Hence, the normality assumption for each variable is acceptable, which indicates that all the specific factors are normally distributed.

10.4.4 Relative Importance Index (RII)

The data collected from the pilot survey questionnaire was analyzed from the perspective of clients, consultants, contractors, sub-contractors, and other parties who are involved in infrastructure projects. Each complexity factor's RII perceived by all the respondents was computed for overall analysis.

The relative importance index, RII was computed for each complexity factor to identify the most significant complexity factor. The complexity factors were ranked based on the RII values.

The rankings of all complexity factors during the design stage, tendering stage, and contract award stage in the pre-construction stage based on time performance are shown in Table 10.5.

Design Stage Based on Time. The five most important complexity factors as perceived during the design stage in the pre-construction stage were: (1) lack of optimization of cost and time (RII = 0.778); (2) change of original design from client (RII = 0.773); (3) insufficient study on construction ability and feasibility (RII

Table 10.5 Relative importance index (RII) of the complexity factors affecting performance of infrastructure projects based on time during pre-construction stage

Design stage			Tendering stage			Contract award stage		
Factor of complexity	RII	Rank	Factor of complexity	RII	Rank	Factor of complexity	RII	Rank
Lack of optimization of cost and time	0.778	1	Award to low bid that is qualified or non-compliant	0.741	1	Delays during the approval process	0.773	1
Change of original design from client	0.773	2	Insufficient time to evaluate tenders from sub-contractors	0.724	2	Delay in contract negotiations	0.751	2
Insufficient study on construction ability and feasibility	0.746	3	Exercise privilege clause to award in accordance with non-disclosed criteria	0.714	3	Failure to start the procurement process on time	0.735	3
Insufficient collection and reviewing of all drawings	0.735	4	Insufficient time in preparing tender documents to sub-contractor	0.708	4	Extension of bid or proposal submission date	0.735	3
Errors of original design	0.730	5	Tender document not complete	0.692	5	Delay in preparing technical specifications, scope of work, or terms of reference	0.724	4

= 0.746); (4) insufficient collection and reviewing of all drawings (RII = 0.735); and (5) errors of original design (RII = 0.730) as shown in Fig. 10.1.

Tendering Stage Based on Time. The five most important complexity factors as perceived during the tendering stage in the pre-construction stage were: (1) award to low bid that is qualified or non-compliant (RII = 0.741); (2) insufficient time to evaluate tenders from sub-contractors (RII = 0.724); (3) exercise privilege clause to award in accordance with non-disclosed criteria (RII = 0.714); (4) insufficient time in preparing tender documents to sub-contractors (RII = 0.708); and (5) tender document not complete (RII = 0.692) as shown in Fig. 10.2.

Contract Award Stage Based on Time. The five most important complexity factors as perceived during the contract award stage in the pre-construction stage were: (1) delays during the approval process (RII = 0.773); (2) delay in contract negotiations

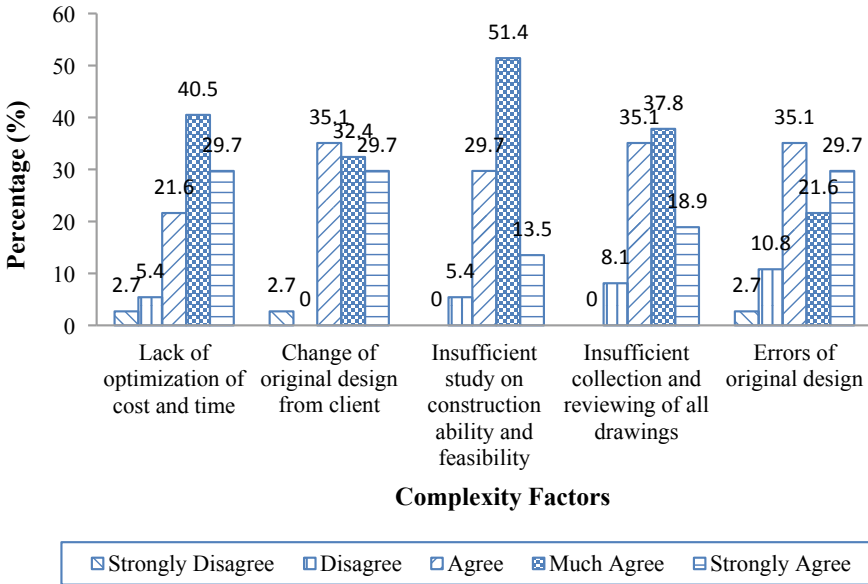


Fig. 10.1 Five important complexity factors affecting performance of infrastructure projects based on time during pre-construction stage (design stage) based on rank of RII

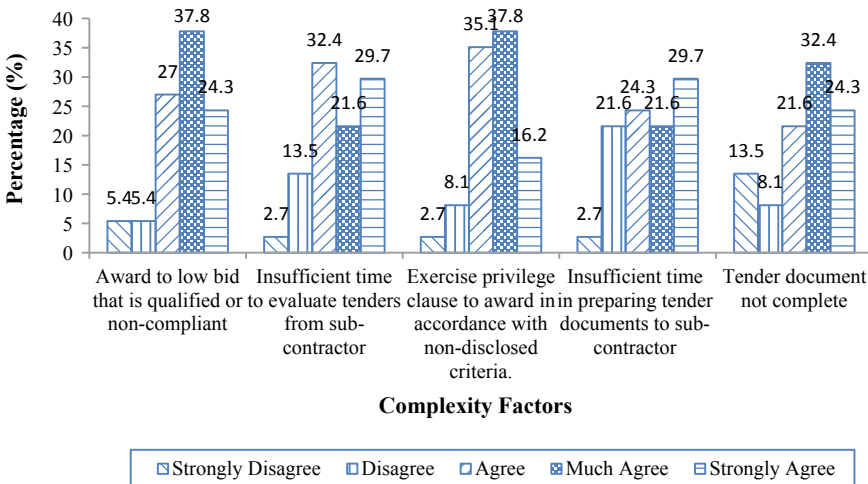


Fig. 10.2 Five important complexity factors affecting performance of infrastructure projects based on time during pre-construction stage (tendering stage) based on rank of RII

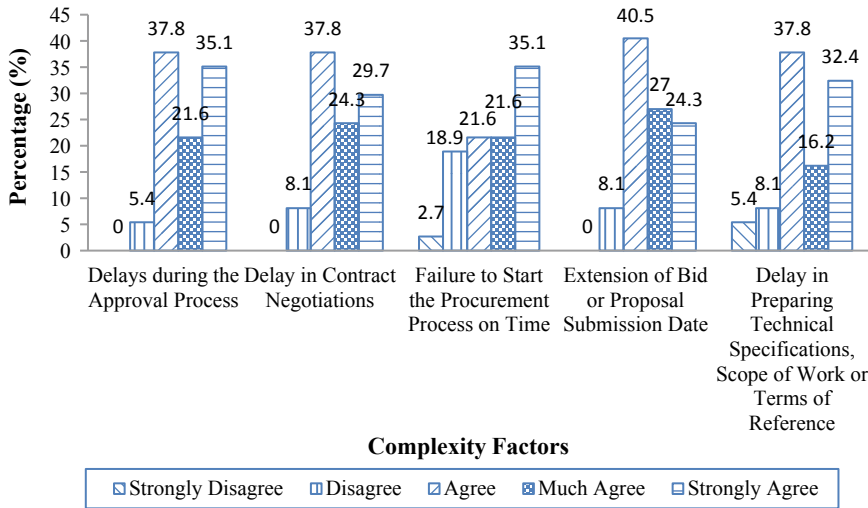


Fig. 10.3 Five important complexity factors affecting performance of infrastructure projects based on time during pre-construction stage (contract award stage) based on rank of RII

(RII = 0.751); (3) failure to start the procurement process on time (RII = 0.735); (4) extension of bid or proposal submission date (RII = 0.735 same as RII no. 3); and (5) delay in preparing technical specifications, scope of work, or terms of reference (RII = 0.724) as shown in Fig. 10.3.

The results show that all the complexity factors are most significant factors that affect the performance in infrastructure projects during the pre-construction stage, especially based on time which is the factor contributing to the respondents’ decision. Hence, the analysis should also include other performance indicators such as cost and quality.

10.5 Conclusion

The literature reviews have shown a current lack of understanding of the term complexity in the construction industry, especially with regard to infrastructure projects. Complexity appears to provide a prolific new understanding of the construction process. The aim of this paper was to identify the complexity factors that affected performance in infrastructure projects during the pre-construction stage based on time. The results show that the complexity factors during the pre-construction stage based on time were affecting the performance of the infrastructure projects.

Finally, similar studies could be performed for other performance indicators such as cost and quality which are crucial for project success and should be taken

into account before the construction stage in construction projects, especially in infrastructure projects by developing and utilizing the findings of this study.

This research paper has been undertaken as part of an overall research project which aims to develop a complexity model in order to identify the most significant factors contributing to complexity and to develop a theory and model of complexity assessment for infrastructure projects.

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Chapter 11

The Role of Service Quality on Muslim Customer Satisfaction: A Case of Sustainable Umrah Industry in Malaysia



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Abstract *Umrah* industry has become a prominent industry as the demand has increased over the years. Due to high demand in the *Umrah* industry, the emergence of travel agencies involved in this industry also keep increasing. The industry creates high competition among travel agencies in order to win the customers' heart. Therefore, the aim of the study is purposed to identify the relationship between service quality toward Muslim customer satisfaction. Five independent variables were selected, namely, caretaking, promise keeping, problem-solving, accessibility, and tangibles. Researchers adopted quantitative research method, and the scope of the study involved 265 respondents in Langkawi. The result of this study revealed that there is a correlation between caretaking, promise keeping, accessibility, and tangibles toward customer satisfaction. However, problem-solving shows no correlation with customer satisfaction. From the result, several recommendations have been made on how to remain in competitive advantage as well as reduce the tendency of problem during performing *Umrah*.

Keywords Service quality · Customer satisfaction · *Umrah sustainability*

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11.1 Introduction

Recently, the emergence of travel agencies has become wider. This industry has tackled the attraction of many people to spend their money just to fulfill their needs such as enjoyment, relaxation, education, sport, adventure, medicine, pilgrimage, and cultural and social interaction, among others.

According to Taylor and Baker (1994), the key influence on service quality and customers' satisfaction is the formation of consumer purchase intentions in service environments. Thus, it is very important to understand the impact of service quality since it involves the profit of an organization and others (Ziethaml et al. 1996). Therefore, understanding, achieving, and maintaining the quality of customer experience are the successful links between travel agencies and their customers.

Obviously, those who offer heritage tourism services seem to be less concerned with studying and measuring the quality of service experience, perhaps because many practitioners in this specialty still do not consider their field to be tourism business (Garrod and Fyall 2000). Indeed, the need to evaluate the quality of delivered services and their impact on tourists' entire experience is crucial since it will represent the image of the firm (Carmen and Carmen 2008).

Religious tourism has great potential as a growing phenomenon that would benefit from academic advancement and applied improvements (Alecú 2010; Collins-Kreiner and Gatrell 2006). It is considered as the oldest form of tourism (Rinschede 1992). It is a type of heritage tourism that is motivated exclusively or strongly by religious reason (Timothy and Olsen 2006). In religious tourism, people of the same faith travel individually or in groups for religious purposes.

The rise in demand for religious travel is clearly part of a larger trend toward deeper interest in religious products of all sorts. This form of tourism comprises many facets of the travel industry ranging from pilgrimages, missionary travel, leisure (fellowship), vacations, faith-based cruising, crusades, conventions and rallies, retreats, monastery visits, and guest-stay (Okonkwo 2015). The global changing of Muslims population will increase the demand for the travel agencies that provide service and guidance to perform *Umrah*.

Realizing the importance of service quality toward customers' satisfaction, this study, therefore, is conducted to determine the customer satisfaction on *Umrah* tourism agency in Langkawi. In the next section, review-related literature is presented, followed by detailed discussion of the methods used, and findings and discussions of the study.

11.2 Literature Review

11.2.1 *Customer Satisfaction*

The customer is considered as a part of the company's assets, and satisfying the customer is crucial to ensure the survival of the company to prolong their business. As a travel agency, most of their services deal with customers, and based on previous research done by various researchers, satisfaction is related to service quality. However, service quality is an overall evaluation or global assessment, but customer satisfaction is a transactions assessment (Darfoon 2013). Besides, it is also treated as the outcome of the customer's perception of the value received by *Umrah* travelers in a transaction.

According to Ramachandran and Chidambaram (2012), the degree of customer satisfaction depends on the quality of products and services. Recently, *Umrah* travel has become easier with modern transportation. The availability of fast airplane and a comfortable hotel makes people more satisfied (Utomo et al. 2016). Therefore, consistency in maintaining customer satisfaction of *Umrah* pilgrims should continuously be considered by travel agencies. This included good service quality, ease of service delivery as well as the cost required.

As a result, if the customers have positive impression of the services, they might as well tolerate minor errors made by travel agencies. However, travel agency must not make repeated errors as this will tarnish their image (Ashdaq et al. 2015).

11.2.2 *Caretaking*

Caretaking involves the ability of travel agency to respond directly to customers. According to Winer (2004), by combining the abilities of travel agency to respond directly to customer request and to provide customers with highly interactive and customized experience, *Umrah* travel agency will have a greater ability today to establish and nurture a long-term relationship.

According to Wiltshier and Griffiths (2016), conceptually the activity requires organizations to be more aware of their networks, partnerships, supply-chain management, and community development collaborations and to participate in elements of customer relationship management activity. A knowledgeable and experienced travel consultant or representative (Mutawwif) on *Umrah* package becomes influential factors in determining the overall satisfaction of customers and enhances their service delivery.

11.2.3 *Promise Keeping*

Promise keeping refers to travel agent's ability to perform the services dependably and accurately as promised (Darfoon 2013). Travel agency needs to really keep their promise on timing issues because this may be a sensitive issue for *Umrah* travelers. Promise keeping is an obligation that justifies in the making and receiving promises. According to Oktora and Achyar (2014), there were two dimensions of trust. The first dimension is their belief that travel agency has appropriate skills and expertise. The second dimension is goodness, that is, they believe that travel agency will give an assistance, try hard to avoid any risk to ensure that the condition remains normal, will put customer's needs into their priorities, and will be ready to help them whenever needed.

Recently, there have been a few *Umrah* travel agencies without license or recognition that take advantage by providing cheap packages that include all facilities and accommodation, even flight tickets. However, on the day of travel, customers face problems because those travel agents disappear with their money. The report from the New Straits Times Online (2016) indicates that the police recorded 216 cheating cases involving "*Umrah*" packages with losses of RM 9.1 million in the same period. This shows that travel agencies cannot keep their promises and attempts fraud.

11.2.4 *Problem-Solving*

Liu et al. (2016) define problem-solving in the term of problem-focused coping (PFC) as purposeful problem-solving through rational and measured efforts to confront and remedy the stressful situation (Lewin and Sager 2008). Meanwhile, Giampaoli et al. (2017) perceive problem-solving as a capacity. From a cognitive perspective, problem-solving consists of information analysis and transformation that aims to reach a specific goal regardless of the difficulty in decision making (Anderson 1980; Lovett 2003).

Darfoon (2013) in his study on religious tourism industry described problem-solving as one of the main dimensions that is important in assessing service quality on how a travel agent deals with potential critical incidents that happened with pilgrims. The ability to solve different problems is the main aspect of this dimension; because of this mass event, pilgrims seem to be worried about any potential problem that may affect performing their Hajj the right way. Liu et al. (2016) proved that problem-focused coping helps in service recovery.

There are several studies on problem-solving dimension which have been conducted from different industries such as tourism (Darfoon 2013), manufacturing (Giampaoli et al. 2017), and finance and insurance (Giampaoli et al. 2017), and among B2B sales professionals (Liu et al. 2016). Therefore, the ability to learn through problem-solving activities is one of the most important strategic dynamic capabilities (Teece et al. 1997) that may lead to successful organizations where they

transform new ideas faster than their competitors (Giampaoli et al. 2017). To satisfy customers, an organization must hire and train good employees.

11.2.5 Tangible

SERVQUAL is an instrument that has been frequently applied to measure the level of service quality (Liao 2012). Darfoon's (2013) studies on Hajj service indicate that appearance of service providers is not important given the nature of this spiritual experience and the religious teaching that call for sameness in this event. This dimension measured the tangible aspects of accommodation, transportation means, food, and cleanliness.

SERVQUAL instrument could operationalize the concept of service quality from five perspectives, including tangibles, reliability, responsiveness, safety, and empathy (Sadeh 2017). Several studies on SERVQUAL instrument to measure service quality had been conducted in different industries such as tourism industry (Darfoon 2013) and healthcare sector (Sadeh 2017; Al-Borie and Damanhoury 2013; Ramez 2012). Thus, tangible factor is crucial in service industry, and establishment of higher levels of service quality will lead customers to have a high level of satisfaction (Amin and Nasharuddin 2013) which in turn has a significant positive impact on customer loyalty (Santouridis and Trivellas 2010).

11.2.6 Accessibility

In recent years, accessibility is one of the key factors in determining a travel destination (Apollo 2017). Accessibility is described by Alkahtani et al. (2015) as the ability of tourists to conveniently reach their destination. It is based on meeting the visitors' needs in terms of accessibility to dignify their experiences and make them feel free within the destination. Meanwhile, from the context of religious tourism industry, Darfoon (2013) states that accessibility refers to the locations of accommodation and how it is convenient to access other services' places and locations where rituals are to be performed, such as Haram in Mecca, Jamarat and Arafat. Hence, most of the previous studies on accessibility dimension take place in tourism industry setting (Apollo 2017; Uchiyama and Kohsaka 2016; Capitaine 2016; AlKahtani et al. 2015) and transportation sector (Yatskiv et al. 2017). Previous tourism literature had emphasized on the behavior of religious tourists (Eid 2015; Battour et al. 2012) and accessibility at tourism destinations (Bi et al. 2007; Darcy 2010).

Melian et al. (2016) in their study in assessing the accessibility of several tourism and religion-related activities within the destination, such as accommodation, transportation, hospitality services, religious sites, and religious activities, proved that there is a relationship between perceived value of accessibility and customers' satisfaction. It shows that accessibility is important in determining satisfaction positively

related to customer loyalty and will eventually lead to customer retention (Eid 2015). Providing an appropriate product or service by targeting the individuals with accessibility needs with a correct approach and strategy, the travel agencies will be able to have a competitive advantage (Özogul and Baran 2016).

11.3 Methodology

This study employed a survey method whereby primary data were collected via a distribution of questionnaires. The populations on this study comprised 813 customers from six prominent *Umrah* service provider agencies in Langkawi who have performed *Umrah* during July 2015 to June 2016. The travel agencies covered include MN Ajwa Travel & Tours, Jagung Mas Travel & Tours, Multaqa Al Iman Travel, Harun She Travel, Fadhlim Travel, and Al-Quds Travel. Simple random sampling was used to draw the samples. A total of 246 samples were selected from the population to be used in this study. A set of questionnaire had been given to the respondents which consists of six sections, namely, caretaking, promise keeping, problem-solving, accessibility, tangible, and customer satisfaction.

All the items were adapted from the study by Darfoon (2013) and were rated on a five-point Likert scale. The scales have been found to have sufficient levels of reliability and validity. Bivariate correlation was used to test the relationship between the study variables, and multiple regressions were utilized to test the effect of independent with dependent variable.

11.4 Findings

The study was conducted which involves the Muslim consumers who used *Umrah* package service at six travel agencies in Langkawi. Among those who participated, the majority of the respondents were female (52.4%), while 47.6% was male. Most of the respondents (30.9%) were consumers in the range of 50–59 years, were married (74.8%), and had an income in the range of RM0–RM1500 (44.3%). Cronbach's alpha test shows all variables have excellent result which is Cronbach's alpha coefficient more than 0.9. This result indicates that the instrument is appropriate for use. The mean value for all variables shows that most respondents agree with the statements issued in the questionnaires. Table 11.1 shows Cronbach's alpha value, mean, and standard deviation of all variables used in this study.

The relationship between caretaking, promise keeping, problem-solving, accessibility, and tangible with customer satisfaction was investigated using Pearson's correlation coefficient.

Based on the findings, there was a strong positive correlation between each variable with customer satisfaction. The strength of relationship between

Table 11.1 Reliability coefficients, mean, and standard deviation for major variable

Variables	No. of item	Cronbach's alpha	Mean	Standard deviation
Caretaking	5	0.91	4.35	0.67
Promise keeping	6	0.93	4.41	0.66
Problem-solving	4	0.93	4.35	0.72
Accessibility	5	0.94	4.39	0.68
Tangible	6	0.93	4.31	0.69
Customer satisfaction	6	0.95	4.33	0.68

Table 11.2 Regression results

Variables	β	t	Sig
Caretaking	0.167	1.477	0.010
Promise keeping	0.156	2.585	0.046
Problem-solving	0.035	2.002	0.572
Accessibility	0.198	0.567	0.001
Tangible	0.385	3.279	0.000
R	0.875		
R square	0.766		
Adjusted R square	0.762		
F value	157.469		
Dependent variable: Customer perceived quality and satisfaction			

caretaking ($r = 0.781$, $p < 0.01$), promise keeping ($r = 0.814$, $p < 0.01$), problem-solving ($r = 0.765$, $p < 0.01$), accessibility ($r = 0.792$, $p < 0.01$), and tangible ($r = 0.844$, $p < 0.01$) was significantly positively related to customer satisfaction.

Regression analysis was conducted mainly to predict the hypotheses in this study. Table 11.2 shows that only four hypotheses were significant which are caretaking, promise keeping, accessibility, and tangible that were found to have a significant and positive relationship with customer satisfaction. Overall, the variance explained by all the independent variables is 76.6%.

11.5 Discussion and Conclusion

This research revealed that there is relationship between caretaking, promise keeping, accessibility, and tangibles toward customer satisfaction. Mainly, the findings of the study showed that tangibles are the strongest predictors and positively associated with customer satisfaction that consists of facilities provided by the service provider, for instance, transportation, accommodation, and meal. Similarly, promise keeping

by the service provider and accessibility that pilgrims can commute from one place to another easily were delivered accordingly.

Promise keeping is related to trust and commitment by the Umrah travel agencies as supported by Oktora and Achyar (2014), that is, trust was a form of customer's belief of honesty by the travel agency, and it refers to the desire of customers to trust their service provider. The result is consistent with that of Uchiyama Kohsaka (2016); when evaluating the tourism potential of an area, along with the land use and distribution, there is a need to consider accessibility. Caretaking was also found to be positively and significantly related to customer satisfaction, that is, the pilgrims were kept informed about the schedule and activities and were guided by the qualified *mutawwif*.

Generally, the findings of this study also reveal the crucial influences in service quality and customers' satisfaction that lead to the respondents' determinants in service atmosphere. Therefore, it is essential to understand how service quality influences customer satisfaction. Thus, the results obtained from this study provide several implications for service industry in order to enhance sustainability such as competitive advantage, ROI growth, and business longevity, instead of the religious obligation.

Indeed, the need to assess better service quality and their influence on customers' satisfaction is vital since it will represent the image of the service organization. Future studies may focus on other populations and increase in sample size that may yield further results that could enrich the body of knowledge.

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Chapter 12

National Interest Versus Regional Interest: The Case of Transboundary Haze Pollution



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Abstract Air pollution has been identified as one of the major environmental problems which causes many detrimental consequences, particularly on health and the environment. It is important to keep the air and atmosphere free from pollution to promote quality and healthy life, in line with the Sustainable Development Goals (SDGs) set by the United Nations (UN) under Goal 3 which demonstrates both good health and well-being for people. Since the 1980s, transboundary haze pollution has become another “season” affecting many countries in the Southeast Asian region. It is a recurring regional environmental pollution associated with substantial effects/interests such as economics, human, and environment. In addressing transboundary pollution, a regional organization such as the Association of Southeast Asian Nations (ASEAN) has a significant role. This article reports the results of qualitative in-depth interviews via face-to-face and email using a semi-structured interview guide. Arguably the national interest overrides regional interest such as exploiting the economic concern and neglecting the social well-being and environmental security. Even though ASEAN has initiated various mitigating efforts since the past few decades, ASEAN Way of implementation of these efforts seemed to be ineffective. As a result, concrete actions and policies are needed to better address the problem.

Keywords Sustainable Development Goals · Transboundary haze pollution · Association of Southeast Asian Nations · National interest · Regional interest · ASEAN Way

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12.1 Introduction

Transboundary haze is an environmental crisis that has hit Southeast Asian region since the 1980s and has affected countries in various aspects. The root cause of the haze is the land clearing for agricultural uses and palm plantation via open burning in Sumatra and Kalimantan, Indonesia (Mayer 2006; Gibbs et al. 2010; Vermeulen et al. 2012). This is because Indonesia is currently the world's biggest producer of palm oil (McCarthy 2010; Varkkey 2012). There are mainly three reasons why Indonesia began to focus on palm oil cultivation in the 1980s. Firstly, due to dwindling primary forests, which means that Indonesia's earlier reliance on logging as a driver of its economy was unsustainable. Secondly, the palm oil prices surpassed rubber during that time (Hansen et al. 2009), and climate conditions in Indonesia are ideal for palm oil plantation (McCarthy and Zen 2010). Hence, the crop is deemed to be the most favorable for plantation (Walhi 2009). However, the slash-and-burn practice for this plantation is the main problem which has contributed to the development of haze (Hamzah 2012; Varkkey 2012; Palanissamy 2013). The haze can even worsen during the El Nino season (van der Werf et al. 2008; Herawati and Heru 2011). As transboundary haze affected Indonesia, Malaysia, Singapore, and other Southeast Asian countries with dirty smoke and dust, ASEAN is expected to play a critical role in addressing the problem. The profound effects of the haze have initiated ASEAN's plenteous efforts, but the implementation of these efforts continuously failed in mitigating the haze pollution in this region over a few decades (Nguitragool 2011). In simple words, the past and the present efforts and policies are no longer effective in addressing this issue. One of the reasons that the haze mitigation efforts are facing obstacles is due to the regional engagement of ASEAN which is known as ASEAN Way (Murray 2010; Kim 2011; Varkkey 2013). ASEAN Way consists of a bundle of norms that act as a guideline and has created peace and stability in the region constantly utilizing the states sovereignty, consultation, consensus, and non-interference norm in other domestic affairs (Jones 2006). However, it is a question of interest as ASEAN has used various diplomatic approaches that are in line with ASEAN Way, but to this day, even after more than 30 years, the issue of haze is still being raised. How have these national and regional interests influenced the ASEAN Way of mitigation efforts in addressing the transboundary haze pollution? The analytical outcome of this paper is from the preliminary, qualitative data obtained through in-depth semi-structured interviews to argue that the national interest has always become a priority by states compared to the regional interest. Besides, there are many studies that are more focused on the national interest and palm oil patronage, and there is limited "concern" about human security/rights; every person has the right to clean air and safe environment.

12.2 Methodology

This study used both primary and secondary data. For primary data, this study employed an in-depth qualitative approach guided by a semi-structured interview protocol. Also, the respondents identified were through judgmental sampling after the approval of the Research Ethics Committee of the Universiti Teknologi MARA, Shah Alam. Email and face-to-face interviews were conducted, depending on the preference of the interviewees. The units of analysis are individuals from selected organizations such as government, non-governmental organization (NGO) representatives, and academicians under the purposive sampling. These three types of representatives were able to provide a wide spectrum of perceptions on the haze issue. Besides, the key informants were considered knowledgeable as some may have directly or indirectly tried to tackle this issue, and generally all possess unique ideas and perceptions with regard to the haze issue in the Southeast Asian region. All respondents are informed either verbally or in writing regarding the consent. Besides, the pseudonyms are used to ensure the confidentiality of the interviewees. In addition, to maintain uniformity, the interviewees are anonymously known as Interviewee 1, Interviewee 2, Interviewee 3, and so on in this paper. Other than that, the secondary data from various materials such as newspapers, journal articles, websites, documents, and reports were being utilized to support the arguments.

12.3 Results

National interest is essential for states. All states are very committed to fulfilling the goals of their national interests (Interviewee 1, 2019; Interviewee 2, 2019; Interviewee 3, 2019; Interviewee 4, 2019; Interviewee 5, 2019). It is obligatory for every state to protect and secure its national interests. Thus, the state's behavior is constantly influenced by its national interests. Generally, national interest is the interest of a nation in promoting what is in its best interest. In regard to the transboundary haze issue, Malaysia's interests are economics (Interviewee 1, 2019; Interviewee 2, 2019; Interviewee 3, 2019; Interviewee 4, 2019; Interviewee 5, 2019), human (Interviewee 1, 2019; Interviewee 2, 2019; Interviewee 4, 2019), and environment (Interviewee 2, 2019; Interviewee 4, 2019; Interviewee 5, 2019). The economic interest that is of main focus in the case of transboundary pollution is palm oil plantations in which the "success" expansion of palm oil sector in Indonesia is also driven by Malaysian and Singaporean investors (Quah 2002; Varkkey 2012). As one of the interviewees observed, "Malaysians and Singaporeans own and operate some of the largest plantations in Indonesia. Malaysia is the second-largest producer of palm oil after Indonesia. Malaysia has limited space to expand. Indonesia is perfect, having similar language, culture and climate" (Interviewee 5, 2019). Meanwhile, one interviewee expressed, "Malaysia's national interest is to ensure the safety and well-being of the people but at the same time the national interest is also very tied up with the

elite interest which are these companies who are very closely related to government which are very profitable for Malaysia as well in terms of Gross Domestic Product (GDP) and all that. So, the national interest involving the haze is not straight-forward because it involves industries that are benefiting from the haze actually” (Interviewee 1, 2019).

In this paper, regional interests are defined as the common national interests shared by the member states of ASEAN. Most of interviewees agreed that the regional interests focus on human and environmental security (Interviewee 1, 2019; Interviewee 2, 2019; Interviewee 4, 2019; Interviewee 5, 2019) in which the haze has become a threat to both securities in the Southeast Asian region. For example, interviewees said, “Basically the regional interest is to have nice and good clear sky” (Interviewee 2, 2019) and “The loss of productivity due to health issues due to haze, Indonesia still has large forests that can be used as plantation land, but at what environmental cost?” (Interviewee 5, 2019). Furthermore, according to Interviewee 1 (2019), “ASEAN’s interest would be sort of regional stability, prosperity and a good environment to build up the regional economy.”

Also, haze affects human health, productivity, quality of life, and environment. These effects of haze on an individual can also be associated with basic human rights (Jakarta Post 2015; Masghati 2016; News Straits Times 2016). Everyone is equally entitled to human rights without any discrimination and that includes the right to life and liberty, freedom, safe environment, and many more. According to (Interviewee 2, 2019; Interviewee 4, 2019; Interviewee 5, 2019) transboundary, haze pollution did violate human rights. As mentioned by the president of the environmental NGO, “Polluting the air is a human right issue because environment is a human right, you have the right to free air, to breathe clean air, to be free from pollution and all that. So, having a transboundary haze that affecting my human right, right to a healthy environment, to clean air, to fresh air, I agree it violates the human right” (Interviewee 2, 2019). Also, another interviewee from different environmental NGO supported by saying that “Clean air to breathe is a basic human right. Yes, transboundary haze does violate human rights” (Interviewee 5, 2019). However, according to Interviewee 3 (2019), haze did not violate the human right, but it did affect people’s quality of life.

It can be said that majority of the interviewees agreed that national interest usually takes precedence over regional interests (Interviewee 2, 2019; Interviewee 3, 2019; Interviewee 4, 2019; Interviewee 5, 2019). According to Interviewee 3 (2019), “There is not much ‘attention’ being given on this particular matter as there are other vital issues that requires more attention. National interest depends on the individual state on how it interprets it. States are often prioritizing things such as economic.” Meanwhile, Interviewee 2 (2019) shared his view as, “National interest for instance even though Indonesia was causing the problem, burning forest in Sumatera and Kalimantan at that time, you find that they still reluctant to act because the first and foremost is to show that you are defending your country. Second, comes regional. The sovereignty even if you are doing wrong you do not admit it, and then you blame somebody else like for example blaming Malaysian and Singaporean companies, it is not our fault, so the national interest is like being like having politicians represent Malaysia and being a part of ASEAN. So, when they go to ASEAN they say

the regional cooperation is very good, very important, and when they come back to Malaysia, and they go like Malaysia first, we just talked there, we are not going to do anything. It is only talk shop where they go there, they say regional integration is very important and they come back and say if anything regional affects sovereignty there is no way, you know so the same kind of thing, so that is why you found that even though we have the transboundary haze agreement the last country to sign was Indonesia. So, national will always takes place over regional.” On the other note, “I am not sure whether it conflicts or not, perhaps it might because I mean it is very difficult to say whether it conflicts because ASEAN would like to solve the haze so to maintain peace and cooperative atmosphere and a good atmosphere, but at the same time national interest or national priorities can be expressed in ASEAN very easily in the sense that especially in Malaysia and Indonesia we have a lot of influence in ASEAN. Malaysia and Indonesia’s interests are often respected by ASEAN, and then ASEAN would like for example ASEAN is trying to address the haze but not doing it in such strict manner is because they want to respect Malaysia and Indonesia’s interests. So, whether or not in conflicts is that. The bigger picture is, of course, ASEAN prosperity and peace but then at the same time, ASEAN needs to respect the interests of their members as well. So, it is complicated in that way” (Interviewee 1, 2019).

12.4 Discussions

States are always motivated by self-interest rather than inspired by “norms” or “ASEAN Way” in a wide range of security issues. The reluctance to “Forgo national interest consideration in favor of broader regional interest” (Kurus 1995) leads member states to only choose and abide the ASEAN Way where their interests are protected or affected (Khoo 2004; Nesadurai 2008; Kim 2011). Otherwise, member states tend to “ignore” the practices. Thus, the freedom to choose is up to the member states. As to the haze problem, the economic interest is fundamental to several states—Indonesia, Malaysia, and Singapore were dominant by the patronage of palm oil (Aggarwal and Chow 2010; Varkkey 2013). Indonesia is currently the world’s biggest producer of palm oil (McCarthy 2010), followed by Malaysia (Purt 2014; Interviewee 1, 2019). The rapid growth in Indonesia’s palm oil was not dependent solely on herself as Indonesia opened up the sector to foreign investors (McCarthy and Cramb 2009).

Consequently, Malaysian and Singaporean investors control more than two-thirds of the Indonesian palm oil plantation sector, and they have been implicated in the fires alongside local plantations (Walhi 2009). The patronage politics is a common business culture in Southeast Asia. All the errant companies are known to have close patronage relationships with their respective governments, Indonesia, Malaysia, and Singapore; thus, they have easily inserted themselves into existing patronage networks in Indonesia (Quah 2002; Enderwick 2005). Therefore, it has added to the bigger comprehension of why these business manors in Indonesia have possessed

the capacity to complete the unlawful practices with such exemption. These companies are privileged to have such protections from the Indonesian patrons during their operations, and this explains why Malaysian and Singaporean investors are still using fires to clear lands even though this has resulted in their home countries suffering from destructive haze effects (Varkkey 2012). The influence of such national interests of sub-state actors; government-linked companies; and foreign policy actors in Indonesia, Malaysia, and Singapore (Rajenthran 2002) has defeated effective regional initiatives in addressing this problem. Hence, these combined key issues contributed to the development of haze in the Southeast Asian region. The development of the palm oil industry has been a major goal of the Indonesian government, which aims to double the output from 2011 to 2020 (United Nations Development Programme 2019). This makes the prediction that palm oil will continue to flourish and haze pollution will keep blanketing the region.

The national interest in economics has always received more “spotlight.” However, there are other national interests of the countries that are affected: environment, human health, productivity, and other social aspects. According to McKirdy (2015), the world’s largest manufacturer of palm oil, Indonesia, is frequently being criticized for the environmental impacts that they have contributed. There are almost 100,000 active fires that have been detected in Indonesia so far, and the carbon emission released has been estimated to have surpassed the United States’s daily carbon emissions (World Bank 2015; Harris et al. 2019). The burning of peatland caused the fires to stay for a long period as it is carbon-rich and this contributed to climate change. It is not only Indonesia and her neighbors who have suffered, but it also gave global consequences. In terms of global impact, forest and peat fires are major sources of greenhouse gas (GHG) emissions (World Bank 2015). If the situation prolongs, Indonesia can not meet its stated target to reduce GHG emissions by 29% by the year 2030 (Goldenberg 2019); hence, there is no haze-free region.

Additionally, in terms of human health, according to Emmanuel’s (2000) findings, there was a 30% increase in outpatient attendance for haze-related conditions in Singapore. Also, it can be observed that there was an inclination of percentage in health-related problems such as increase by 12% of upper respiratory tract illness, 19% asthma, and 26% rhinitis. The health effects from 1997 Singapore’s haze event were found to be moderately intense. Even though the impact is mild, it is still affecting one’s health. A more recent study by Haliza (2013) has directly focused on the impacts of haze on human’s health in Malaysia. According to her article, human health is at risk due to prolonged exposure to high concentrations of harmful particulates. Generally, the research showed that the number of cases of physical health problems, allergies, cancer, and pre-term delivery are increased due to air pollution.

Furthermore, a report by World Bank (2015) stated that the toxic smoke contains harmful elements, namely carbon dioxide, cyanide, and ammonium, that cause widespread respiratory, eye, and skin ailments and are especially hazardous for the very young and the elderly. The impacts of long-term health remain unknown but are predicted to be very substantial. Moreover, according to Shahwahid (2016), it is found that haze affected people’s productivity in Malaysia. For example, there

was a drop in outdoor recreational activities among Malaysian. This also includes “The haze has forced schools to close intermittently, disrupting classes and exam schedules. And many outdoor programmes have also had to be curtailed or cancelled altogether and its negative impact on health and well-being certainly is significant” (The Star 2015). Besides, there are few important events that had to be postponed and canceled such as Standard Chartered KL Marathon 2015, 2015 Malaysian motorcycle Grand Prix, 2015 Singapore Grand Prix, and some of the 2015 FINA Swimming World Cup’s events due to the haze threat (Straits Times 2015; New Straits Times 2015). As discussed above, even though there are significant effects on the interests of environment, humans’ health and productivity, and social life, it received “insufficient attention” compared to the economics interest.

There are many international documents that discussed human rights. First and foremost, the Universal Declaration of Human Rights (UDHR) is a founding document in the human rights history which was adopted by the United Nations General Assembly in 1948. It consists of 30 articles and states the basic fundamental rights that every human being is entitled. Article 3 of UDHR enshrines that “Everyone has the right to life, liberty and security of person” (United Nations 2019). Apart from that, as ASEAN was also inspired and influenced by UDHR, the ASEAN Human Rights Declaration (AHRD) was drafted and adopted unanimously by the member states in 2012. The declaration has 40 paragraphs under six headings that set out the commitment of ASEAN nations to human rights for their 600 million people. Article 28 signifies, “Every person has the right to an adequate standard of living for himself or herself and his and her family” and further explains in the (f) that “the right to a safe, clean and sustainable environment” (ASEAN Human Rights Declaration 2013). It is clearly stated that every person is not entitled to any threat or the dangerous environment to maintain the well-being of the people at every level. Human rights are also frequently related to the concept of quality of life (QOL). QOL is a multidimensional factor that involves physical health, family, safety, security to freedom, and the environment. Also, all these are parallel to the SDGs by the UN that aim for a better and sustainable future for everyone. The goals are broad and interdependent that deal with global challenges. Specifically, goal 3 indicates the good health and well-being for people (United Nations 2015). Attention to health and well-being also includes targets related to hazardous chemicals, air, water, and soil pollution and contamination. It is seen that the human rights, the right to live in a safe, clean environment, and good quality of life, have been the objectives in various important documents. No one’s rights should be deprived. As referring to the case of transboundary haze, Indonesia’s industries to materialize, utilize, and commercialize the plantations have severely impacted the people’s well-being in its states and neighboring countries. This is because the slash-and-burn technique has resulted in blanketing this region with dirty smoke. The haze contains many dangerous substances which are harmful to many, especially the people and the environment.

Furthermore, one can conclude that in this globalized world, economy is no longer the backdrop to world events but rather appears and gains paramount importance in international relations. In other words, it contributes significantly to the nation’s growth. Many previous studies discussed economic interest rather than other national

interests such as human rights, quality of life, and environmental security in the case of transboundary haze pollution. All these combined interests are not only focused at one country but rather countries in the Southeast Asian region, also known as regional interest. As a result, this paper argues that regional interests such as the human and environmental security have been sacrificed for the sake of patronage palm oil sector, specifically between Indonesia, Malaysia, and Singapore. Hence, this economic interest can not be seen as a mutual interest for other ASEAN member states. Indeed, ASEAN acts as an institution centered on the promotion of economic cooperation and prosperity among its members, but human and environmental objectives are often overlooked in the pursuance of these economic goals. Hence, it raises a question, is it “worth” or “fair” to the millions of people within the region? Did the member states forget the AHRD? The answer is that it is just not well practiced.

12.5 Conclusion

The public might not pay much attention to the transboundary haze pollution as this issue is viewed as “seasonal pollution.” This is because, throughout the year, the smoke would blanket the region only for a few days, weeks, or months. When the sky is clear again, people tend to forget the problem, without thinking that the haze will continue to “haunt” them in the following years to come. As haze affected one’s life, everyone should take a firm stand in addressing the haze issue. People should initiate efforts to make sure their voices are heard. The increasing public outcry can add value in combating the transboundary haze (Forsyth 2014; De Pretto et al. 2015). Therefore, mobilizing the mass efforts will be fruitful. At least, it is better to act rather than ignore the issue at hand with regard to the transboundary haze pollution.

Even though there have been long discussions, meetings, action plans, agreement, and other efforts by ASEAN, up to this date, it failed to mitigate the transboundary haze pollution. This can be linked to the national interest, mainly economics between states involved—Indonesia, Malaysia, and Singapore (Varkkey 2012, 2013). Meanwhile, it is unfair and also an act of injustice to other member states that do not contribute to this pollution. Apart from not benefiting from the outcome, they also need to bear the “unreasonable” consequences they did not cause. Hence, there is an urgent need for an effective solution to this underlying problem, even achieving an ambitious goal such as tackling the issue of transboundary haze is not an easy task and it remains a great challenge for ASEAN. Countries are free to exploit their natural resources no matter what their business is. However, it should never “hamper” the negative spillover to other neighboring countries. The key to doing the right thing is to do the thing right. If we do it with sustainability, there will be minimum to no haze and other bad impacts. In conclusion, states need to give their full commitment to achieve the SDGs for a better future.

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Chapter 13

Examining Off-campus Students' Housing Preferences between Public and Private University Students



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Abstract The rising number of tertiary students in recent years, especially in public and private universities, is causing these institutions to have difficulties in providing adequate on-campus accommodation. Thus, students opt for off-campus living. However, in Malaysia, off-campus students are renting private rented units that do not suit their preferences. In some cases, students are living in multiple occupations just to save cost on rental and willing to forgo comfort and security. This situation may result in students having difficulties to perform in their academics. This research aims to examine off-campus student housing preferences associated with those who are studying in public or private universities. A survey was carried out in Selangor involving selected public and private universities. A total of 735 questionnaires were distributed among students in both public and private universities. Data gathered are analysed using Chi-square test. There are five aspects of housing preferences which were considered in this research, namely aspect of location, type of house and cost of rental, housing quality, housing accommodation and housing environment. Findings from this research are essential to serve as a benchmark to related parties, especially those in housing sector, e.g. local authority and developer to come out with student housing concept that is not only about accommodation, but also able to meet the preferences of off-campus students.

Keywords Off-campus students · Student housing · Housing preferences · Public universities · Private universities

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13.1 Introduction

Higher educational institutions (HEIs) have recorded high number of student enrolment every year which is in line with the National Mission in year 2010 to raise the capacity for knowledge and innovation as well as nurture ‘first class mentality’ by producing universities of international standing and ensuring that tertiary institutions meet the need of employers. Following the National Mission 2010, in the Malaysia Education Blueprint 2015–2025, the Ministry aims to expand higher education enrolment over the course of next decade. Ministry of Education has projected level of 53% tertiary enrolment with estimated students of 2.5 million including international students, and approximately 70% is from higher education by year 2025. Statistics recorded in 2017 shows that the number of students’ enrolment in public universities has been increasing from 506,225 students in the year 2016 to 510,789 students in the year 2017 (Ministry of Higher Education Malaysia 2017b). Meanwhile, private universities and colleges also recorded a large number of enrolments with 565,852 students in 2017 (Ministry of Higher Education Malaysia 2017a). A total of 1.07 million students were Malaysians as in 2017, and this statistic has yet to include international students. However, one issue surfaces from this phenomenon: as student enrolment escalates each year, the number goes far beyond the capacity of accommodation prepared by the institutions, i.e. students hostel offered by the universities (Khozaei et al. 2012; Muslim et al. 2012) [13]. One of the considerations made by students when choosing a university is the availability of student accommodation (Khozaei et al. 2012).

Realistically, chances of living on-campus are relatively low. The idea of living on-campus is almost impossible nowadays. For University of New Mexico in Albuquerque and the University of Nevada in Las Vegas, the percentage of students living on-campus is less than 10%. Meanwhile, Boise State University in Idaho has greater number of enrolled students to bed ratio (Marino 2006). Thus, the inability of universities to provide student accommodation may result in students opting for housing off-campus (Khozaei et al. 2012) [14]. In Malaysia, students have no other options than relying on private rented units outside the campus (Muslim et al. 2012). On the other hand, in countries such as Canada and the United Kingdom (UK), their local authorities have cooperated with universities and local government to provide the students with students lounges, namely PBSA (Purpose Built Student Accommodation) in Canada and House of Multiple Occupations (HMOs) in the UK. Meanwhile, in Malaysia, the development of off-campus student housing has not been sought in partnership among developers, universities and the local government (Khozaei et al. 2012) [11]. Students in our country are renting private units which are not under the management of the universities. These private rented units have not been able to cater to the students’ needs, especially in terms of student housing preferences. Besides, students are categorized as economically challenged group of people. Thus, they shall require different types of accommodation to suit their preferences. In some cases, due to financial constraint, our students are willing to forgo comfort and privacy by living with multiple occupations to reduce the rental rate imposed. This

scenario has led to negative effects, i.e. improper disposal, nuisance and congestion within the local neighbourhood [20]. Though rental may be an issue to some students, there are other groups of students who are intrigued to look for off-campus housing that is comfortable and features a home-like attribute (Khozaei et al. 2012; La Roche et al. 2010). Therefore, the question is, do all off-campus students have similar housing preferences or otherwise? Thus, this research aims to identify the off-campus student housing preferences and to examine off-campus student housing preferences between those who study in public and private universities.

13.2 Literature Review

13.2.1 *Public and Private University*

The provision of higher education used to be exclusive to the public sector in Malaysia with only one public university available in 1949, namely University of Malaya. Back in 1996, private institutions were officially recognized with the establishment of Private Higher Education Institutions Act 1996. The growing number of private institutions was driven by high demand for tertiary education in public institution; however, due to limited allocations from the government, the public institutions were having difficulties to meet the demand. Consequently, this led to encouragement from the government for private institutions to actively play their role in the higher education sector (Da 2007). Private institutions act as complementary education providers in offering an alternative for higher education (Da 2007) [12].

13.2.2 *Student Housing Preferences*

Location. Students have clear thoughts on how and where they are going to reside. Central locations in university cities are normally the most preferable [19]. Li et al. [17] have listed six significant positive reasons for students deciding to reside off-campus, and one of them is within the proximity to campus or near to town. Also, students are willing to pay more for better location [18]. Chatterton [18] opines that location is a supporting element in a student's life, and students are likely to prefer location that provides social amenities.

Type of House and Cost of Rental. Students mostly aim to reside on-campus in order to minimize spending while staying away from home. However, the inability of universities to provide student accommodation may cause pressure on students, and the absence of affordable off-campus housing has become one of the major issues of student housing. Despite affordability being one of the crucial elements for student housing, some students are keen to look for comfort and home-like attributes instead. Nowadays, students have higher expectations of student housing compared to their

parents when they were students. These students are willing to pay for the amenities provided (Khozaei et al. 2012; La Roche et al. 2010). Rugg and Rhodes [13] opined that type, tenure, cost and allocation of the local housing supply are among the factors that contribute to the quality of a student's life.

Housing Quality. Over the past decade, the needs and desire of students together with their families have evolved. Comparing traditional dorm with hall bathrooms, students now have high interest in the amenities provided by the universities rather than the basic one historically provided (La Roche et al. 2010). The utmost considerations made by students are security and cost. However, millennial students are willing to fork out money for the following amenities such as private bedroom, onsite parking, double beds, onsite laundry facilities, Internet access, proximity to campus, fitness centre, private bathroom, cable tv and satellite dining (La Roche et al. 2010).

Housing Accommodation. Inadequacy of students housing occurs globally, and it leads students to live off-campus instead (Muslim et al. 2012) [19]. While most on-campus beds are reserved for first year students, the upper class students are forced to reside among the local communities (Muslim et al. 2012). Other than that, the outdated belief that most students live on-campus is no longer an attainable idea since most universities are unable to provide accommodation for students, resulting in students residing off-campus (Korevaar 2004). Though Murray (Korevaar 2004) perceives students as a transient and economically marginalized group and require different types of accommodation, in contrast, Fisher in (Korevaar 2004) indicated that the student housing preferences have also changed over the last few decades. Nowadays, students no longer want to share their rooms, bathroom facilities or dwell in an institution-like building. Students have a higher expectation for student housing than their parents and are willing to pay an additional amount for the amenities (La Roche et al. 2010). Amenities which off-campus students find essential are fitness and recreation centre, wireless networking capabilities, kitchen and single bedroom with private bathrooms (Muslim et al. 2012).

Housing Environment. There are several factors to consider when it comes to housing environment, such as the architectural, economic, social and cultural perspectives. Student housing created distinctive opportunity for the student affairs administrator to contribute to and eventually support the students in achieving better learning experience (Muslim et al. 2012). Strange and Banning in (Crimmin 2008) opined that productive learning environment should include a sense of security and inclusion, mechanism for involvement and experience of community. Studies by scholars have emphasized on how essential student housing is to the success of university students, and it is the responsibility of the universities to ensure that the environment created is comfortable and meets the needs of the students (Crimmin 2008; Muslim et al. 2012). However, students seem to be less satisfied with the on-campus living environment since there is limited spaces, lack of privacy, lack of freedom and poorly maintained facilities (Muslim et al. 2012). Other than that, visitation restrictions, rules and noise are among the negative elements experienced by students who live on-campus. In addition, traditional dormitories provided by the university have yet to fulfil the highly desired amenities that students as well as their parents see as important for better learning experience (Muslim et al. 2012). Thus, to enjoy better

housing environment, students opt for living off-campus. The main reasons behind this choice are the ability to cook meals, length/lease of contract, proximity to campus/town, ability to live with or near friends, parking accommodation and private bathroom [17].

13.3 Methodology

This research is a quantitative research that employs cross-sectional research design as this design is suitable to investigate the occurrence of a phenomenon, situation, problem, attitude or issue by taking a cross-section of the population (Kumar 2014). A survey method was employed which aimed to examine the off-campus students housing preferences between those studying in public and private universities. A total of 735 structured questionnaires were distributed among students in public and private universities within the vicinity of Selangor State. A combination of cluster and stratified sampling was used to determine the sample. Respondents selected are among full-time undergraduate students who reside off-campus. Data gathered were analysed using SPSS software through a chi-square test for independence.

13.4 Findings and Discussion

A chi-square test for independence is used to explore the relationship between two categorical variables, and each of these variables can have two or more categories. In order to be significant at the 5% level, the Sig. value (p -value) should be less than 0.05 [15]. Thus, in Tables 13.1 and 13.2, variables that are significant are marked in bold writing.

From Table 13.1, there is no significant relationship between type of university student and overall aspect of location and aspect of environment since the p -value is greater than 0.05. There is a significant relationship between type of university student and subcategory of type of house and cost of rental; the subcategory of type of accommodation, namely single-storey terrace, apartment/flat and hostel, is significant with a p -value smaller than 0.05. The next subcategory is the number of housemates preferred, 6–8 people and 9 and above are significant with p -value of 0.013 and 0.014, respectively. Then, for subcategory of amount of rental willing to be paid per month per person, p -values are smaller than 0.05 for rental price ranges between RM151–RM200, RM200–RM250 and RM251 and above. Meanwhile, for the inclusion of furniture in the accommodation, fully furnished, partly furnished and unfurnished are significant with a p -value of 0.032, 0.017 and 0.05, respectively. There is no significant relationship between type of university student and overall housing quality; however, under this category, subcategory of secured and lockable windows and door completed with grill and operable dead bolt locks or, in other words, housing security is significant with a p -value of 0.015. Finally, there is no

Table 13.1 Test of association between off-campus students' housing preferences of those who study in private or public university

Housing preferences	Sample size	Chi-square value	P-value	Result (5% level of significance)
<i>Aspect of location</i>				
• Near to university/campus, within walking distance	375	8.512	0.075	Insignificant
• Near to public transportation (bus station, rail station)	375	3.264	0.515	Insignificant
• Near to facilities and amenities, shops, restaurants, banks	375	4.774	0.311	Insignificant
• Near to main accessibility such as highway, expressway	375	3.303	0.508	Insignificant
• Near to city centre	375	7.297	0.121	Insignificant
<i>Aspect of type of house and cost of rental</i>				
• Type of accommodation preferred:				
a. Single-storey terrace	375	15.549	0.004	Significant
b. Double-storey terrace	375	1.175	0.882	Insignificant
c. Semi-detached/detached	375	1.417	0.841	Insignificant
d. Apartment/Flat	375	18.631	0.001	Significant
e. Hostel	375	22.139	0.000	Significant
• Number of housemates preferred:				
a. 1–2 people	375	7.539	0.110	Insignificant
b. 3–5 people	375	9.189	0.057	Insignificant
c. 6–8 people	375	12.669	0.013	Significant
d. 9 and above	375	12.583	0.014	Significant
e. I don't mind	375	1.290	0.863	Insignificant
• Amount of rental willing to be paid per month per person:				
a. RM50–RM100	375	1.158	0.885	Insignificant
b. RM101–RM150	375	3.617	0.460	Insignificant
c. RM151–RM200	375	22.278	0.000	Significant
d. RM201–RM250	375	29.212	0.000	Significant
e. RM251 and above	375	13.840	0.008	Significant
• Preferred furniture to be included in the accommodation:				
a. Fully furnished (all furniture and appliances provided)	375	10.569	0.032	Significant

(continued)

Table 13.1 (continued)

Housing preferences	Sample size	Chi-square value	P-value	Result (5% level of significance)
b. Partly furnished (basic appliances and furniture)	374	12.080	0.017	Significant
c. Unfurnished	375	9.472	0.050	Significant
• Role of cost of rental in housing preferences among students is important	373	3.281	0.512	Insignificant
<i>Aspect of housing quality</i>				
• The exterior wall and paints (external quality)	375	2.428	0.488	Insignificant
• All appliances, fixtures and wall (internal quality)	375	2.458	0.483	Insignificant
• An electric system, including lighting, wiring and equipment (wiring and electrical quality)	375	4.182	0.242	Insignificant
• Sufficient electrical sources as to use essential electrical appliances (number of sockets)	375	4.441	0.218	Insignificant
• Secured and lockable windows and door completed with grill and operable dead bolt locks (housing security)	374	12.367	0.015	Significant
• The size and functionality of the house is suitable with the number of renters at one time (housing space)	375	4.006	0.261	Insignificant
• Effective waterproofing and weather protection (roof quality)	375	1.278	0.865	Insignificant
• Adequate air circulation, natural lighting and ventilation (ventilation and air quality)	375	0.882	0.830	Insignificant
• Adequate and operate in manner (sanitary facilities)	375	2.490	0.477	Insignificant
• Served by an approved water supply and free from contamination, leaks and threats to health and safety (water supply quality)	375	2.221	0.528	Insignificant

(continued)

Table 13.1 (continued)

Housing preferences	Sample size	Chi-square value	<i>P</i> -value	Result (5% level of significance)
<i>Aspect of housing accommodation</i>				
• Room with attached bathroom and hot water	375	6.333	0.176	Insignificant
• Room with air-conditioning	375	2.945	0.567	Insignificant
• House with kitchen facilities	375	4.499	0.343	Insignificant
• House with laundry facilities	375	4.429	0.351	Insignificant
• Availability of Internet access	375	7.711	0.103	Insignificant
• Availability of TV cable (Astro, Unifi, etc.)	374	12.324	0.015	Significant
<i>Aspect of housing environment</i>				
• Neighbourhood mainly family or adult workers	374	4.997	0.288	Insignificant
• Neighbourhood mainly students	374	6.361	0.174	Insignificant
• Availability of parking spaces	374	4.732	0.316	Insignificant
• Availability of facilities and amenities nearby (banks, health institutes, post office, police station, etc.)	373	5.408	0.144	Insignificant
• Safety and security	374	3.254	0.516	Insignificant
• Not crowded	374	0.748	0.945	Insignificant

significant relationship between type of university student and housing accommodation except for subcategory of availability of TV cable such as Astro and Unifi, which is significant with a *p*-value of 0.015.

Based on Table 13.2, in subcategory of type of accommodation, the results indicate both public and private university students agree on three types of accommodations, namely single-storey terrace, apartment/flat and hostel. Meanwhile, for subcategory number of housemates preferred, public and private university students agree on 6–8 people, and in contrast, both disagree for 9 and above people accommodating in a house. As for rental expenses, both public and private university students agree on rental expenses that range between RM151 and RM200 per person and disagree on any amount higher than this. Other than that, both public and private university students agree on their accommodation to be either fully furnished or partly furnished and do not agree for an unfurnished accommodation. In terms of aspects of housing quality, public and private university students have similar standpoint when it comes to housing security. Finally, the agreement is achieved from both public and private

Table 13.2 Results from the test of association between off-campus students' housing preferences of those who study in private or public university

Housing preferences (5% significance level)	Sample size		Majority responded %	
	Public	Private	Public	Private
<i>Aspect of type of house and cost of rental</i>				
• Type of accommodation preferred:				
a. Single-storey terrace	282	93	54.6 (agree)	39.8 (agree)
b. Apartment/flat	282	93	46.8 (agree)	38.7 (agree)
c. Hostel	282	93	36.2 (agree)	44.1 (agree)
• Number of housemates preferred:				
a. 6–8 people	282	93	47.5 (agree and above)	39.8 (agree and above)
b. 9 and above	282	93	43.3 (disagree)	46.2 (disagree)
• Amount of rental willing to be paid per month per person:				
a. RM151–RM200	282	93	45.7 (mixed feeling)	43.0 (agree and above)
b. RM201–RM250	282	93	53.9 (disagree)	54.9 (disagree and below)
c. RM251 and above	282	93	57.4 (strongly disagree)	40.9 (strongly disagree)
• Preferred furniture to be included in the accommodation:				
a. Fully furnished (all furniture and appliances provided)	282	93	67.4 (strongly agree)	76.3 (strongly agree)
b. Partly furnished (basic appliances and furniture)	282	93	48.2 (agree)	48.9 (agree)
c. Unfurnished	282	93	45.0 (strongly disagree)	65.6 (disagree and below)
<i>Aspect of housing quality</i>				
• Secured and lockable windows and door completed with grill and operable dead bolt locks (Housing Security)	282	92	59.9 (strongly agree)	59.8 (strongly agree)
<i>Aspect of housing accommodation</i>				
• Availability of TV cable (Astro, Unifi, etc.)	282	92	64.2 (agree and above)	68.5 (agree and above)

university students in the aspect of accommodation in terms of the availability of TV cable such as Astro and Unifi.

13.5 Conclusion

This research has examined the relationship between types of university students and off-campus student housing preferences. The aim is to develop insight into the housing preferences of off-campus students between those who study in public and private universities. Based on the results from the research, it was found that there was no relationship between the type of university students and aspect of location. This was indeed surprising as location should be one of the most important aspects to consider when residing off-campus. Yet, it is assumed that most students, be it in public or private university, do own cars belonging to their parents or at least own motorcycles and are able to move from one point to another conveniently. In the aspect of type of house and cost of rental, both public and private students agree on residing in either a single-storey terrace, apartment/flat or a hostel. Then, both students disagree that the number of housemates should be more than 9 people and above. Realistically, the three types of accommodations mentioned earlier have smaller built up space. Thus, it does make sense that this type of accommodations should probably accommodate a maximum of 6–8 people only. The number of housemates also plays an important role with the amount of rental willing to be paid. Both students agree that the amount of rental paid per person shall not cost them more than RM200 each. Thus, students are living in multiple occupations to help reduce the amount of rental paid per person. Furthermore, both public and private university students agreed that the dwelling they choose to reside should be either fully or partly furnished. Based on the literature from previous studies, students who stayed away from home to further their studies tend to look for a home-alike dwelling instead. The dormitory design building is less preferred especially among those who decide to reside off-campus.

Meanwhile, this research found that there was no relationship between type of university students and housing environment. It has come to no surprise since this research was carried out in Selangor and among the urban areas. Thus, most universities are located within the vicinity of equipped facilities and amenities. Therefore, students have no issue related to housing environment. In the aspect of housing quality, both public and private university students are more concerned with the housing security as both agree to having secured and lockable windows, door completed with grill and operable dead bolt locks. Housing security should be the main concern of anyone living in the city and not just students. Plus, students who live in multiple occupations should take extra precautions since they may live with individuals that they might not know well. Finally, in the aspect of housing accommodation, both public and private university students agree to the availability of TV cable (Astro, Unifi). This is probably the least entertainment that they could find after a long tiring day at classes. Conclusively, these findings should be a benchmark for stakeholder,

developer, the government and every party related to housing sector. All related parties should put more focus onto student housing since student housing does not just satisfy students. It is undeniably a good investment in real estate (Marino 2006). This research suggests that further studies can be done on the differences of student housing preferences between those who study in public and private universities. Further studies may also be carried out on off-campus housing preferences in sub-urban area or in other states.

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Chapter 14

Quality Education for Sustainable Development in Indonesia



Sr Yuliani and Dicki Hartanto

Abstract World Bank declared that the quality of education in Indonesia currently is relatively minimum, although the expansion of educational access for community has significantly increased. One of the reasons is the uneven access to education or, in other words, there are still inequalities. The Johannesburg World Summit's role in 2002 on sustainability development in promoting Education and Sustainable Development (ESD) was very important to develop as a key concept in its implementation plan. This study was carried out through literature review and interviews with related parties. The study concludes that education is often explained as a big expectation to create a more sustainable future, and institutions of teacher training are considered as main agents of change in transforming education as well as its society. It is necessary to note that the content of sustainable development is not the focus here, but how sustainable development is supported and promoted in culture and society through education supported by government and related parties. Quality education for sustainable development contains key issues about sustainability development into teaching and learning which include knowledge, systems of thought, emotions, ethics and values and actions. From these five domains, we can develop how quality education for sustainable development is applied in Indonesia.

Keywords Quality · Education · Sustainable development

14.1 Introduction

The background of sustainability development began in the early 1960s about social debate related to the environment. During the 1960s, the community felt the need to do something about existing environmental problems. In 1972, the first conference of international environment was organized by United Nations in Stockholm, where

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the environmental issues in the Western world were discussed. The conclusion is that scientists, experts, and technology will solve this problem. Economical aspects are introduced at this time. The concept of sustainability development actually began in 1980 as a response to the need in realization of the balance between progresses of economic and social with regard to the management of environment and natural resources.

In 1987, this concept became increasingly widespread with “Our Common Future” publication by the World Commission for Environment and Development. In this publication, the Commission defined sustainability development as a development that meets the present needs without reducing future capabilities. In other words, although development may be needed to meet human requirements and improve their life quality, the natural capacity of environment to meet current need and needs for future is not disrupted.

The understanding in sustainability development has been translated and interpreted differently in different contexts. After the Stockholm conference, the United Nations again raised environmental questions, this time on the global stage and with a focus on the twenty-first century. The United Nations Conference on Environment and Development held in 1992 in Rio de Janeiro produced Agenda 21, with guidance on how world governments, important councils, and social groups must introduce the development of twenty-first century without destroying the environment. The message that arose from the Rio Conference was both rich and poor countries face different environmental problems.

The Johannesburg 2002 World Summit’s role on sustainability development to promote ESD is so important here because it also promotes Education for Sustainability development (ESD) as a key concept in its implementation plan. The Education Decade for the United Nations Sustainability Development (2005–2014) was decided the same year by the UN General Assembly. This decade was monitored by UNESCO, has a global vision, and aims toward a world, and each one gets the benefit opportunity from quality education and finds the values, behaviors, and lifestyles needed for a sustainable future and a positive transformation in society (UNESCO/PAPPITEK LIPI 2006).

The aim of this decade is to ensure that “education for sustainability development is practiced in schools and other educational settings to highlight the center of the role played by education and learning in the pursuit of Sustainability development and that quality education is a precondition for education for improvement at all levels and in all education aspect.” In a wide sense, sustainable future education includes improving the basic education quality, re-education to overcome sustainability, increasing public awareness, and having training to various sectors (UNESCO/PAPPITEK LIPI 2006). Education is commonly described as a great expectation for designing better sustainable future, and the institutions of teacher training are expected as agents of key changes to transform education as well as society in order to create the possibilities of such future.

The United Nations General Assembly in December 2002 declared an Education Decade for Sustainable Development (DESD) for 2005–2014 with UNESCO as the principal agency in promoting this decade. Its main vision is a world where each one

has a right to learn values, behavior as well as lifestyles required for a sustainable future and for positive transformation of society. Then, DESD challenges all kinds of educational provision for adopting practices and approaches that can speed up the values of sustainable development (UNESCO 2005).

Dannenberg (2016) stated that since 2005, ESD has developed positively. The DESD influence which could not be underestimated is the potential of ESD which can be integrated in to overall sectors of education. Therefore, in Germany, a DESD central element was to give awards to the projects, initiatives, and municipalities. On the one hand, this made the commitment of ESD stakeholders visible. Besides, the ESD concept could be made acceptable through the example of awarded partners from any classical educational institutions such as nursery schools, schools, and higher educations via providers of service and other kinds of enterprises, NGOs as well as local projects (Dannenberg 2016).

Human development, according to the United Nations Development Program (UNDP) standards, consists of four criteria, namely HDI > 80 categories are very high, HDI 70–79 categories are high, and HDI 60–79 are medium categories.¹ The Central Statistics Agency (BPS) released HDI data. In 2018, HDI is reported to increase. In 2018, Indonesia's HDI reached 71.39. This figure increased by 0.58 points or grew by 0.82% compared to that in 2017. It means, human development in Indonesia continues to experience progress. For that, the Indonesian HDI 2018 above 70 indicates that Indonesia's human development is in the high category. There are as many as seven provinces whose HDI status was upgraded to moderate in 2018. And now there are no provinces in the low category (Depkes 2018).

However, the intended transformation depends on sustainable education and researches. In this case, therefore, higher educations play a central role in promoting both research and education. More than that, there is no worry that the social and innovations in technologies need to develop and disseminate, needing broad-based scientific supports (WGBU 2011). Universities play an important role in developing future's decision-makers, problem-solvers, and agents of change. Therefore, it is important to ensure the implementation of training and development of teachers, lecturers, and administrative staff as initiated in the projects such as University Educators for Sustainable Development continuously (UE4SD 2014; UNESCO 2014a). In the similar time, public worker absenteeism including education workers is a key obstacle to delivering services to the poor in developing countries. It is widespread (Chaudhury et al. 2005). According to Ihsan (2013), education is a human activity and effort to improve his personality by fostering his personal potentials, i.e., spiritual (thought, intention, taste, creativity, and conscience) (Ihsan 2013).

According to Handayani (2019; 48), sustainability principles need to be integrated into the education curriculum, including higher education which has a strategic role in shaping the younger generation, agent of changes. Integration of ESD into the higher education curriculum is the latest trend and an important issue in the development of higher education curriculum in various countries. Many universities have

¹UNDP (segera terbit). Indonesia: debt strategies to meet the millennium development goals. UNDP, Jakarta.

implemented ESD in implementing curriculum and learning practices with different approaches.

The connection of education and sustainable development is so related to each other. The future theory for sustainable development is not able to get or achieve the development in implementation and widespread support, if the people are not educated and do not have adequate information. The strategies in implementation for sustainable development are developmental result of educational curricula. Moreover, presently there are great efforts to integrate sustainable development theory in education, not only in theoretical concepts but also in practical applications (Zenelaj 2013).

Based on the above phenomenon and previous studies, there are some problems which need our serious attention to promote quality education for sustainable development, particularly in Indonesia. Therefore, in line with the spirits of SDGs and the education for sustainable development, this study is proposed, which focuses not only on the content of sustainable development, but also on how sustainable development is covered and promoted in culture and community through education in Indonesia to promote quality education in the future.

14.2 Methods

The descriptive method was used in this study, where the method of research tries to explain and interpret the research objects into a real description. The descriptive method is applied since the data analysis is descriptively presented. The instruments of the study included interviews and documentations. School principals and education services in four provinces (Riau, North Sumatera, Jambi, and West Java) in Indonesia were interviewed. Some documentations were collected from Indonesian Education Ministry and UNESCO websites.

According to Endraswara (2011), one of the important features of qualitative research is the role of researcher as the key instrument who understands the phenomenon more deeply. Besides that, the research findings are reported descriptively in pictures and numbers and the process is more important than the results.

14.3 Results and Discussion

Some projects of research on teacher education show clearly that teaching which has become the core task of the teacher often gets limited attention than domain knowledge such as biology, geography, and others. Often teaching materials are strongly influenced by lecturers, preferences, and do not have to be oriented toward students' future praxis (Oelkers and Oser 2000; Oser 2002; Terhard 2002). In the latest discourse on research in education, it is often reported that the message of professionalism about education was not achieved. However, there is a growing

consensus about the meaning of learning competencies as a requirement for the quality of education, the integration of shared responsibility for the development of schools, and other professionalism developments.

Krainer (2003) had introduced four dimensions for professionalism, namely interaction and reflection, autonomy and networking, with this expected to help parent involvement and the school environment, and even collaborative actions more with partner institutions and professional communication.

Stern and Streissler (2006) got the professional development in the domain of science and stated that very different competencies are needed in their empirical research project among Austrian teachers.

Times have changed and teachers have changed too. Yunus (2018) stated that all, as in Malaysia, the preliminary changes started in their classroom itself where new technologies like projectors, computers, and Internet have introduced the classroom to the outside world. Teachers who once used a textbook, a tape recorder, and a blackboard are presently using PowerPoint to present grammar, playing podcasts to practise listening skills, and pulling texts off the World Wide Web to introduce reading skills to mention some. Perhaps, the most important of all is that the teachers support all students by giving access to a wide range of web-based tools that make it possible for them to publish work and engage with live audiences in real contexts (Yunus 2018).

The Indonesian government has implemented a program for achieving basic education for all and has provided affordable and high-quality basic education, which has been carried out, among others, through the School Operational Assistance (BOS) program which was implemented in 2005 and reached 42.1 million people in 2011. However, viewed from the world of education in Indonesia, it has several obstacles related to the education quality, including the limited access to education, some teachers who are not well distributed, and the quality of the teachers is considered still lacking. The limited access to education in the regions has become the center of the flow of urbanization, which is a problem now. Inadvertently, Indonesians are encouraged to urbanize education because of the limited facilities in the region. At an international level, the education quality in Indonesia ranks 64th from total of 120 countries around the world based on the annual report of UNESCO Education For All Global Monitoring Report 2012 (UNESCO 2005), whereas based on the Education Development Index (EDI), Indonesia ranked 69th of 127 countries in 2011. In the most recent report on 2013 UN development program, Indonesia ranked number 121 out of 185 countries in the Human Development Index (HDI) with a score of 0.629. With this figure, Indonesia lags behind two neighboring ASEAN countries, namely Malaysia (ranking 64) and Singapore (ranking 18), while HDI in the Asia Pacific region is 0.683.

The social development perspective of the quality of SDGs education in Indonesia ensures quality education that is inclusive and equitable and promotes opportunities of lifelong learning for humans, regulated in Law number 20 of 2003 concerning the national education system. In Nawacita (Indonesian Government Program), it

entered into *nawacita* number 3, namely to build Indonesia from the periphery by strengthening the regions and villages in the framework of a unitary state, and in RPJM by strengthening regions and villages within the framework unitary state, laid the foundations for the beginning of asymmetric decentralization, equalizing development between regions, especially eastern Indonesia and overcoming poverty.

2016 was the starting point for achieving the quality education target implemented by the Indonesian Education Ministry for Early Childhood Education (PAUD). The Ministry of Education, implements Pre-SD or PAUD programs for all boys and girls in gaining access to quality pre-primary development, care and education (PAUD) to ensure readiness to enter primary education. Until 2016 there were 72.29% or 58,174 villages throughout Indonesia having PAUD. Currently, based on the 2016 PAUD Dapodik, the number of PAUD throughout Indonesia reaches 190,225 schools. The Ministry of Education and Culture seeks to realize the SDGs by starting to provide Special Allocation Funds (DAK) of BOPs in the amount of Rp. 600 thousand per year for 190,225 schools. This assistance is prioritized for PAUD education for 4 to 6-year-olds. Fauziati (2018) declared that as a system, quality education must continuously evaluate and improve all dimensions of the system which includes the quality of learners and educators, learning environment, content, processes, and outcomes (outcomes). Quality education can be seen through several elements, such as health, early childhood experiences, and family support (Fauziati 2018).

To ensure that SDGs are implemented within the Indonesian development framework at both national and regional levels, the role of a coalition of civil society is needed. These social institutions can urge the Indonesian government to prepare a variety of things in terms of both processes and substance. The Indonesian government must be pro-active in its efforts to achieve the SDGs, as a follow-up to Indonesia's pro-active initiatives in the process of preparing the SDGs agenda and implementing the SDGs agreement. Even though the SDGs are not legally binding, they are the result of a state leadership agreement that is morally binding for each country to be responsible and is obliged to ensure that the goals and targets in the SDGs can be implemented and achieved by 2030. Indonesia needs robust preparation towards SDGs adoption efforts, especially action plans on priority and strategic objectives in the 2016/2017 Indicative RKP and Ceiling as well as a comprehensive legal framework. The medium-term financing mobilization requires institutions which reflect the involvement of all interests and supervisory framework to improve data collection methods.

Furthermore, based on the Leuven concept (2017), a dynamic model for ESD competence in teacher education was developed, where the connections of professional dimensions and overall competence refer to all combinations. The functions of the five competency domains are knowledge, systems of thought, emotions, values and ethics and actions that must be implemented in every professional dimension and related to all competencies as a whole. Finally, the content of education for sustainable development must be related to future and national and international developments. The description of the five competency domains is as follows:

- (a) **Knowledge.** Specific knowledge for sustainable development education is defined as conceptual, factual, and action able. Knowledge must be related to time (past–present–future) and also space (local–global) and must be plural or cross-disciplinary. Knowledge is built by every individual and has been developed with overall experiences of each life and thus must include the structure of social knowledge. Our knowledge viability determines its quality. Viability today must be attributed responsibility for nature will not be exploited again.
- (b) **Thinking System.** Critical thinking is very necessary. The complexity and relevance of the world today require thinking in the system. There is an additional open view; analytical thinking and thinking of reductionist are not enough to imagine a sustainable future or to solve present problems. Different system types included biological, ecological, geographical, political, social, and economical, as well as the relationship in space and time.
- (c) **Emotional Thinking.** Reflecting, assessing, making decisions, and acting are not separated with emotions. Therefore, emotional competence is needed for the commitment of education to sustainable development and the process. Empathy and affection play an important role. Feeling the interrelationship with this world is the basis of motivation intrinsically in ESD.
- (d) **Ethics and Values.** Norms, attitudes, values, beliefs, and assumptions guide our perceptions, thoughts, decisions, and also actions. They also affect our feelings. The important guiding principle of education for sustainable development is justice (social, intergenerational, gender, and community). The similarity between humans and nature is included only explicitly in several sustainable development concepts.
- (e) **Actions.** Action is a process, in which all competencies from the other four domains are combined with creation, participation, and networking, which means in elementary school, special attention should be paid to practical skills, abilities, and competencies in the management of project and cooperation. Four action levels must be considered for ESD success: individuals, classes/schools, regional, and global. This will allow experience in matters of conflicts of interest, change, involvement (participation), learning from mistakes, synergy and success (Sleurs 2007).

All of the above are able to increase the motivation to learn more and continue the action if it is indeed wisely chosen. The act of enabling the application of solidarity develops through empathy and compassion. From each of the five domains, we develop the competencies at three levels with different approaches:

- (a) Teachers as individuals—related to reflection and vision,
- (b) Teachers in educational institutions—related to teaching and communication, and
- (c) Teachers in community—related to cooperation and networking.

The table can be a reference for the steps in the education process for sustainable development. The perspective seen is the initial identification of what is happening so that teachers and schools can take the steps planned in education for sustainable development.

In its application in Indonesia, quality education is one of the 17 SDG programs that aims to ensure quality education which is inclusive and equitable, as well as support opportunities of lifelong learning for all. This goal was strengthened in the Republic of Indonesia Law 20 of 2003 concerning the national education system, and then SDGs were formulated together at the global level, and in some aspects, it could be adapted to the situation and conditions of Indonesia. The achievement of the SDG goals is largely on the shoulders of the provincial and district governments. The regency has steadily begun to take over more routine government expenditures. So the local government should be able to play its role.

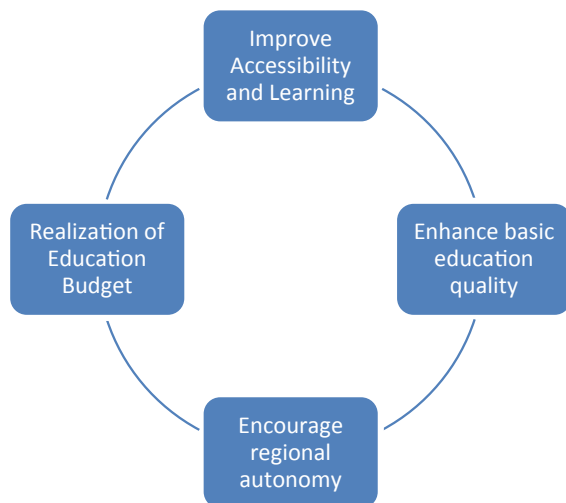
The findings of Bayu and Victor study (2014) stated that the role of government is better allocated for expenditures to fund teacher salaries, and the cost to improve the quality of teachers and the education level of secondary schools in Indonesia are resources that have common characteristics, rivalry and non-excludable (Bayu and Victor 2014).

Based on the interviews done with school principals and education services in the provinces in Indonesia, finally it is recommended that the role of government in Indonesia is to create policies that include the following chart:

The details of Fig. 14.1 can be explained in below descriptions:

- (1) To improve the accessibility and expand learning opportunities for all students in primary and secondary schools with the main target for the poor, remote, and isolated area schools.
- (2) To enhance the quality of basic educations.

Fig. 14.1 Recommended policies of Indonesian government related to quality education for sustainable development



- (3) To encourage the implementation of regional autonomy, decentralization of management of sustainable education to enhance community participation, and local government involvement.
- (4) To ensure that the realization of education budget for education up to 20% from national and local budget (APBN and APBD).

The call for quality education is a big step toward ensuring that all children, whoever they are, get quality education. There is an opinion which states that the threshold level of quality education is literacy and numeracy. However, SDGs realize that this definition is inadequate and out of date. Education is a system designed to help all children reach their full potential and be able to become full and productive citizens in society. There is consensus around the basic dimensions of quality education today.

Quality education refers to the education system through the process of programming, structure, and content that enable the creation of healthy learners, a healthy environment, content that is reflected in the curriculum, relevant teaching materials, child-centered learning processes, and outcomes (outcomes) that include knowledge, skills, and attitudes, which are relevant to national education goals and positive participation in the society.

The main purpose of education for sustainable development is that every student must acquire the relevant knowledge and practice the knowledge acquired in a sustainable manner. Education for sustainable development can be seen as an overall perspective and a sustainable process in a volatile world. The long-term goal is that students can see nature and surroundings not only for the present but also for the future and must be sustainable, so that education for sustainability development makes each human to acquire the knowledge, skills, attitudes as well as values needed to form a period sustainable front. Education for sustainability development contains key issues about sustainability development in teaching and learning in five domains, including integrating knowledge, systems of thinking, emotions, ethics and values, as well as actions. From these five domains, education can be developed for sustainable development.

14.4 Conclusion

Quality education is a program of 17 SDGs that aim to ensure quality education which is inclusive and equitable and support opportunities of lifelong learning for everyone. Residents of a village can agree to choose what SDG goals are their priority, including monitoring and accelerating their achievements. Quality education refers to the education system through a process of programming, structure, and content that enables the creation of healthy students, a healthy environment, content that is reflected in relevant curriculum and teaching materials, and child-centered learning processes, results that include knowledge, skills, and attitudes, which are relevant to the objectives of national education and positive participation in society.

In each system, quality education must continuously evaluate and improve all dimensions of the system that include the quality of students (learning), the learning environment, content, processes, and results (outcomes). The government can greatly support the quality of education development by ensuring that the budget for education both for national and local regions in Indonesia is adequate. However, the quality implementation in teaching can be seen through several elements, such as health, early childhood experience, and family support.

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Chapter 15

Sport Participation Motivation among Universiti Kebangsaan Malaysia Athletes



Nor Nandinie Mohd Nizam Edros and Tajul Arifin Muhamad

Abstract Every human being has a different motive within themselves when engaging or conducting a behavior or activity. Perhaps, two people who are doing a similar activity have different motives of engagement that encourage them to do the activity. Motivation is the cause and reason why an individual is doing something or more to the tendency toward an action taken. Motivation in the study is based on the purpose and the desire of athletes' involvement in sports. This pilot study explores the relationship between intrinsic and extrinsic motivation toward sports involvement among athletes at Universiti Kebangsaan Malaysia by using Participation Motivation Questionnaire (PMQ), specifically on the constructs of fitness, fun, skill development, and free energy for the internal factors that influence the involvement in sports, while the external factors include achievement and status, situation factor, team spirit, and friendship. Self-administered questionnaires were distributed to a total of 30 respondents randomly selected among sport and recreation student athletes. Findings revealed that sport and recreation student athletes highly perceived achievement and status as their participation motivation in sports. However, it should be noted that constructs such as fitness, fun, skill development, free energy, situation, team spirit, and friendship are also forming the participation motivation in sports involvement among the athletes. Future research should consider a bigger sample size involving all student athletes from every faculty in the institution and also the veteran athletes who still get involved in sporting activities as researchers should study on the reason for long-term participation motivation among the veteran athletes.

Keywords Motivation · Athlete · Sport involvement · Intrinsic motivation · Extrinsic motivation

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15.1 Introduction

Every human being has a different motive within themselves when engaging or conducting a behavior or activity. Perhaps, two people who are doing a similar activity have different motives of engagement to encourage them to do the activity. Motivation is the cause and reason why an individual is doing something or more to the tendency toward an action taken. Indirectly it can be understood that the motive for an individual's involvement is abstract and difficult to see unless the individual can interpret it.

Motivation in the study carried out refers to the purpose of the movement and the desire for personal involvement in sport. The objective of this study was to identify and study the relationship between intrinsic motivation and extrinsic motivation toward sports involvement among Universiti Kebangsaan Malaysia athletes. The constructs assessed in this study based on intrinsic motivation and extrinsic motivation were fitness, fun, skill development, and free energy for internal factors influencing sports participation, while four other constructs were by external factors, namely achievement and status, situation, team, and friendship.

Intrinsic and extrinsic motivations play an important role in measuring the factors that influence an athlete to engage in sports. Athletes who have experience in the sport themselves will engage in physical activity without being influenced by external factors. For athletes who participate in sports solely for rewards or hobbies, they are categorized as extrinsic motivation-oriented athletes, in contrast to those who engage in sports solely for their interest in the sport involved without expecting any reward for their involvement. According to past researchers, motivational factors can also affect the athletes' self-esteem by maintaining psychological and sociological levels (Bin Omar Fauzee 2003). The importance of psychology in sports is also undeniable. Psychology is one of the key components in ensuring an athlete's success (Krane and Williams 2006). According to Schacter (2011) in his study on motives of engagement of college students and adults, motivation is a psychological form of shaping the individual toward the desired goal and is regarded as a psychological force that can reinforce that individual's action. All individuals participate in sports activities, but each has their own goals to achieve through their involvement.

Therefore, it is important to study the motive of an individual's involvement in sports activities whether it depends on one of the motivations that is instructive or extrinsic or based on a combination of both motivational factors. This study is based on a study using the Participation Motivation Questionnaire (PMQ) developed by Gill (2000).

15.2 Problem Statement

Engagement motivation is closely related to the reason why an athlete engages in, or withdraws from, sports participation (Horn 2002). All of the above reasons are

closely related to motivating factors or causes of losing the motivation of the athlete to engage in sports. Motivation of an athlete's self-esteem is considered important because it can influence the performance displayed in a sport. If there is no motivation in an individual's sports participation, especially an athlete, then he or she will not be able to perform the best and will not achieve the desired goal.

Each action taken by an individual is closely related to a specific motive and purpose. In this study, the researcher wanted to determine whether athlete involvement in Universiti Kebangsaan Malaysia is influenced by motivational factors. Hamzah and Joy (2009) in their study also stated that individuals have their own motivations as an impetus for doing something to meet their needs and desires. Studies on the involvement of school and university athletes have been conducted, but studies on the motives of sports participation are still lacking. According to the Director of Sport Centre Universiti Kebangsaan Malaysia (2018), the percentage of students participating as athletes in 2018 is less than 10%. What is the reason for the lack of student involvement as an athlete at Universiti Kebangsaan Malaysia?

Therefore, in this study, the researcher will further explore what is the motivation for participation in sports among Universiti Kebangsaan Malaysia athletes. Whether constructs in intrinsic and extrinsic motivations are factors in athlete involvement in sports.

15.2.1 Purpose of the Study

This study was conducted to determine the motives of participation in sports among Universiti Kebangsaan Malaysia athletes.

15.2.2 Research Objective

Identify and study the relationship between intrinsic motivation and extrinsic motivation toward sports involvement among Universiti Kebangsaan Malaysia athletes.

15.2.3 Conceptual Framework

As shown in Fig. 15.1, the motivation factors that can be studied are intrinsic and extrinsic which include eight constructs such as fitness, fun, skill development, energy release, achievement and status, situation factor, team spirit, and friendship.

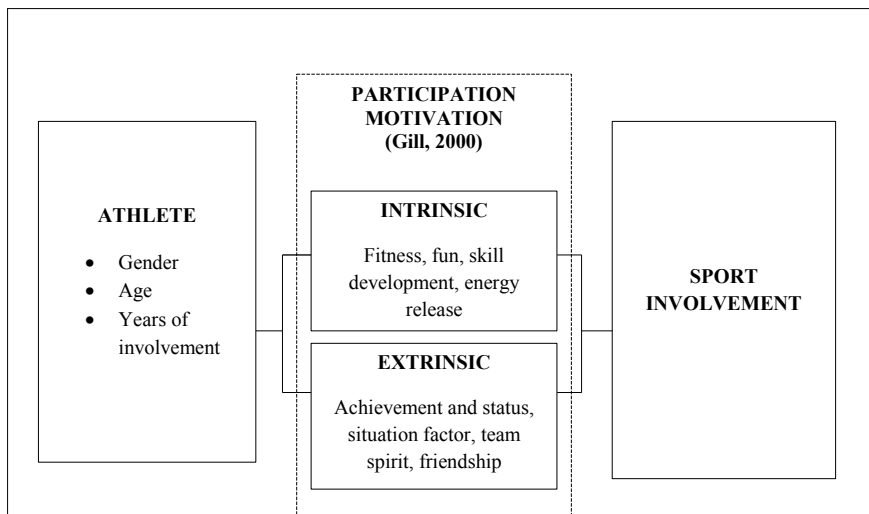


Fig. 15.1 Conceptual framework on motivation of Universiti Kebangsaan Malaysia athletes’ participation in sports

15.3 Methodology

This research is a descriptive study because researchers used questionnaires to obtain data to study the relationship between motivations toward participation in sports among Universiti Kebangsaan Malaysia athletes. The data obtained will be analyzed through descriptive and inferential analysis. Data collection is based on a questionnaire distributed to Universiti Kebangsaan Malaysia athletes (Table 15.1).

Engagement motivation questionnaire or better known as the Participation Motivation Questionnaire (PMQ) was adapted from Gill (2000) based on intrinsic motivation and extrinsic motivation and has eight constructs based on four intrinsic motivations (fitness, fun, skill development, and energy release), while four more constructs were based on extrinsic motivation (achievement and status, situation factor, team spirit, and friendship). The five-point Likert scale was applied. The scale begins from 1 to 5, the values being classified as “strongly disagree,” “disagree,” “undecided,” “agree,” and “strongly agree.” Each value represents the respondents’ motivation toward sports participation. The questionnaire has two sections. Section A identifies the respondent’s background such as gender, age, and years of involvement, while

Table 15.1 Procedural analysis on sport participation motivation among Universiti Kebangsaan Malaysia athletes

Research design	Research instrument	Sample	Type of data
Survey	Self-administered questionnaires	UKM athlete	<ul style="list-style-type: none"> ● Descriptive ● Inferential

Section B focuses on the involvement motive perceived by the respondent toward sports participation.

15.3.1 Research Design

The study was conducted using the survey method by distributing a questionnaire consisting of 30 questions, 15 questions related to intrinsic motivation and another 15 questions related to extrinsic motivation. This method was selected because it is appropriate to meet the needs of researchers to gather the required information from students who are participating as athletes at Universiti Kebangsaan Malaysia. Based on the questionnaire distributed, the researcher can identify the motive of student involvement as a university athlete and also find out whether intrinsic or extrinsic motivation is more influential in the athlete's involvement.

15.3.2 Research Instrument

Items in the self-administered questionnaire were adopted from studies by Gill (2000). The questionnaire has two sections. Section A identified gender, age, and years on involvement in sport status of the respondent, while Section B focused on the respondent participation motivation toward sport involvement which consists of intrinsic (internal) and extrinsic (external) motivations.

15.3.3 Population and Sample

The study sample consisted of students who participated as athletes at Universiti Kebangsaan Malaysia. A total of 30 students were selected as respondents consisting of 15 male and 15 female students.

15.3.4 Data Processes and Analysis

Statistical Package for Social Science (SPSS) version 22.0 was used to analyze the data collected using the descriptive statistics, factor analysis, reliability analysis, independent t-test, and correlation.

15.4 Findings of Pilot Study

The pilot study was a preliminary study conducted by the researcher to ensure that respondents understood the items found by the researcher to carry out the study and to ensure the validity and reliability of the items. In addition, a pilot study was conducted to ensure the content of the questionnaire such as the words used in the research question. Respondents' responses and understanding of the pilot study indicate whether the question is understood by the respondents or not. Cronbach's alpha was used to measure the validity and reliability of the studied construct. Cronbach's alpha for the eight constructs studied was greater than 0.60, indicating that all constructs were applicable in the study conducted because of their validity and reliability (Tables 15.2 and 15.3; Fig. 15.2).

Table 15.2 Percentage of respondents classified by gender ($N = 30$)

	Frequency	Percent	Cumulative percent
Male	15	15	15
Female	15	15	30
Total	30	30	

Table 15.3 Item-total statistics on sport participation motivation among Universiti Kebangsaan Malaysia athletes ($N=30$)

Construct	No. of items	Sample	Cronbach's alpha
Fitness	3	30	0.880
Fun	5	30	0.863
Skill development	4	30	0.870
Energy release	3	30	0.811
Achievement and status	5	30	0.883
Situation factor	4	30	0.717
Team spirit	3	30	0.844
Friendship	3	30	0.815

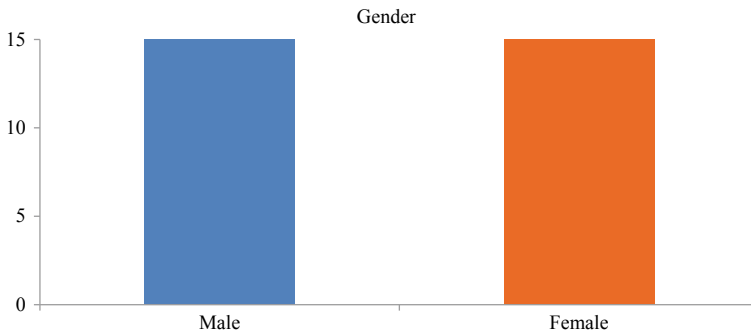


Fig. 15.2 Percentage of respondents in relation to gender

15.5 Conclusion

In conclusion, this pilot study was conducted using Participation Motivation Questionnaire (PMQ) by Gill (2000). This study was conducted based on intrinsic and extrinsic motivations through eight constructs, namely, fitness, fun, skill development, energy release, achievement and status, situation factor, team spirit, and friendship.

Based on the pilot study, researcher discovered that student athletes of Universiti Kebangsaan Malaysia perceived achievement and status as their motivation toward sport participation. It should be noted that constructs such as fitness, fun, skill development, free energy, situation, team spirit, and friendship also form the participation motivation in sports among the athletes.

Future research should consider a bigger sample size involving all student athletes from every faculty in the institution and also the veteran athletes who still get involved in sporting activities as researchers should study the reasons for long-term participation motivation among the veteran athletes.

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Chapter 16

Walking Environment: Silhouettes Versus Shades



Ruwaidah Borhan, Siti Syamimi Omar, and Atikah Fukaihah Amir

Abstract A society will enjoy the benefits of walkability when people want to walk and its environment allows people to walk. This requires two conditions to be met: people having the motivation to walk and an environment that provides the facilities to walk. Thus, the aim of this paper is to discuss which condition of the environment provides and leads people to walk and gives a pleasant and comfortable ambience. The conditions that are focused in this study are the comfortable walking under the silhouettes of building or the combination of building silhouette and shades provided by trees. Quantitative and qualitative data collections were conducted on the pedestrian network of Ipoh, Perak, Malaysia. This research is very important as it carries a distinct perspective on thermal comfort in the presence of greenery toward creating a sustainable and comfortable ambience of walking. However, the result of this study has proved the green elements are not solely needed in context of improving the quality of walking, especially in rapid growth of urbanization. The supporting activities have been found as one of the factors in motivating people to stroll around the city. Therefore, in this study, it can be concluded that to create a walking environment that is more comfortable, environmental should be integrated with social and economic factors as well. Thus, it can create a walking environment in a sustainable city ecosystem.

Keywords Walkability · Silhouettes · Tree shades

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16.1 Introduction

In the past two decades, walkable city approaches were widely spread in most of the growing cities around the world. A city is walkable if the entire system of public corridors is walkable and people can live without dependency on the automobile. The provision of well-connected pedestrian network and accessible public transit can increase opportunities for tourism activities where visitors can have enjoyable walking experience, strolling through the places within the city (Zakaria and Ujang 2015). However, the walkable approach also is to give an awareness to the societies about having a healthy life in the cities, which contain more carbon dioxide from vehicles and industry rather than oxygen from living organisms. Furthermore, walkability has been identified as a necessary component for livable and sustainable societies. Walkability is being considered to gain advantage of physical health by the avoidance of various diseases (Banerjee and Loukaitou-Sideris 2011). A few years back, most scholars were considering the increased walkability in built environment, possible aspects in improving physical activities, and social interaction within the society. According to Leslie et al. (2005), physical activity such as walking is the most usual form adults consider as the basic element for an active, healthy, and sociable lifestyle. In this study, conditions of environment, through walking experience are the factors that are needed to be considered for improved walking environment where there has been a very tangible impact on increasing both the walkability and sociability. For instance, double active frontage at the street is found to be an encouragement to explore and stroll around (Brower 1988).

In fact, this is a dynamic relationship where people and ambience act on each other (Cohen et al. 2008), and it has been agreed by other scholars where different places have been reacted with a differently behavior (Nasar 2011). For instance, a person behaves differently in a library and a grocery store. In the context of environmental qualities of walking, facilitating walking and other activities influences a person's level of comfort (Alfonzo 2005). Comfort is quite subjective because different individuals perceive it differently, and how the people respond toward the surrounding can be identified (Zakaria and Ujang 2015). In this study, the comfort is focused on the response of people's behavior toward space that has some different thermal effect due to elements that support a walking environment and physical attributes. Most of the scholars, through their studies are discussing the physical aspects that affect people's satisfaction of comfort while walking mainly along the streets, and they are rarely discussing on the correlation between environmental aspect and social aspects. The study aims to demonstrate the comfort ambience that will give an important impact on appropriate walkability, sociability, and environment. Moreover, the comfort ambience is narrowly focusing on the thermal comfort that is provided by silhouettes of building and the shades of trees. Thus, this paper establishes a strong link among elements in the environment.

16.2 Definitions

16.2.1 Walkability

Walkability is the secondary mode of transportation in the city in most of the developing countries. Education or awareness that has been exposed to the society about the benefits through campaign or policy by the government is a good and consistent approach in having a good healthy lifestyle. Moreover, walkability plays a key role in building self-confidence, providing opportunities for social interaction and self-expression, along with countless health benefits (Aneela 2017). Walkability relates to the ability of the places to connect people from various destinations within a reasonable amount of time and effort and to offer visual interest in journeys throughout the network (Southworth 2005). Another scholar refers to walkability as built environment that is friendly with the presence of diverse activities (Abley 2005).

16.2.2 Silhouette

Significant building silhouettes and city skylines are an important part of urban composition and contribute to a city's identity. In this study, silhouette refers to the building that gives a shade and good thermal comfort for people walking around the city. Silhouette and tree shades can be referred to do the same function but in different contexts. Silhouette usually comes in the form of shadow from the building, yet shades are derived from the canopy of trees, and moreover gives an additional pleasant ambience with oxygen and breeze from the wind.

16.3 Research Methodology

16.3.1 Study Site Selection

There are differences in the quality of environment and elements along Concubine Lane and Panglima Lane, which are both separated by Jalan Bandar Timah (see Fig. 16.1). Concubine Lane is one of the active lanes because of its function and physical attractions. There is a double active frontage by the building facade and business that make the Concubine Lane interactive. Therefore, the silhouette of the building provides shade along the lane. Panglima Lane (see Fig. 16.2) is located opposite to the Concubine Lane (see Fig. 16.3) which is beside the Kong Heng Restaurant. Along the Panglima Lane, there are trees providing shades that involve in the ambience of walking where the conception that trees were structures along the walkway as a column to pleaching and an architectural layout of planting. These two



Fig. 16.1 Site study plan at Panglima Lane and Concubine Lane in Ipoh Old Town City, Perak

Fig. 16.2 Panglima Lane



areas are connected to each other by pedestrian walkway and are easily accessible either by walk or a vehicle.

Fig. 16.3 Concubine Lane

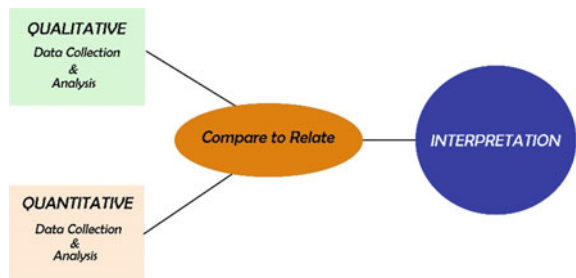


16.3.2 Conceptual Framework

This research used a combination of qualitative and quantitative methods (mixed methods) which have applied the basic mixed method design that is convergent parallel mixed method model (see Fig. 16.4). This method was used in collecting data. Furthermore, each result underwent comparison to verify all data. The evaluations include thermal comfort, lane's quality, accessibilities, facilities, and safety. Percentage was used to analyze the level of comfort by the subjects.

Based on convergent parallel mixed method model (Creswell 2014), this study is acceptable because it involves the collection of both quantitative (questionnaire

Fig. 16.4 Convergent parallel mixed method model (Creswell 2014)



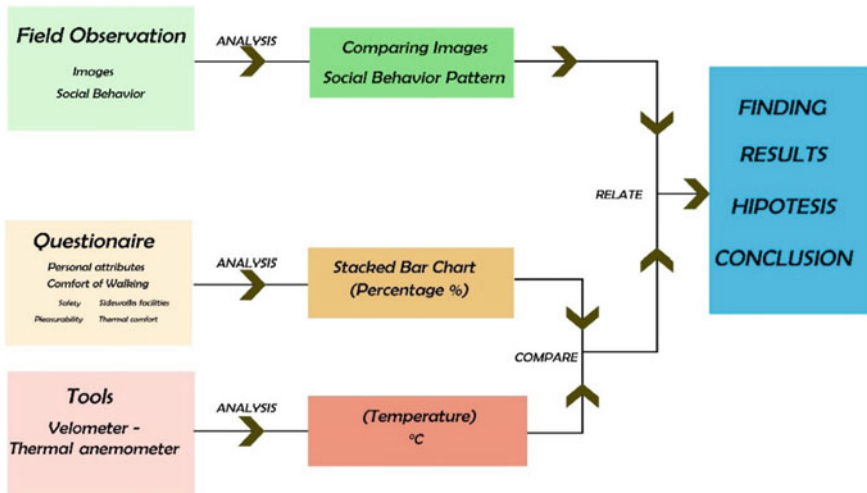


Fig. 16.5 Conceptual framework of Mix Model_Walking Environment

and instrument tools) and qualitative (field observation) data in response to research questions or earlier hypothesis. This conceptual framework (see Fig. 16.5) is an ideal approach to access both quantitative and qualitative data which are given more understanding in comparing different perspectives drawn from questionnaire of people's satisfaction of walking and from field observation. Using tools such as velometer to evaluate the thermal comfort is one of the methods in developing better measurement instruments and having an accurate argument in the studies.

16.3.3 Questionnaire

The questionnaire was distributed to subjects who have access to the lane and who are having social interaction in the site. A total of 75 sets have been distributed to each of the lanes, which sum up to 150 sets of questionnaires. The questions were designed in two sections which are personal attributes and comfort of walking which that focused on satisfying the users in the context of safety, sidewalk facilities, thermal comfort, and pleasurability. The questionnaire was designed using the five-point Likert scale format to evaluate the subjects' level of comfort and pleasant environment while having a social interaction in the area. The subject refers to a person who is either a visitor or a local doing a business in the area.

16.3.4 *Velometer*

The instruments that have been used in this study is a velometer-thermal anemometer for indicating thermal comfort and a rolling tape to measure lane width. Moreover, velometer-thermal anemometer was used to measure the air temperature ($^{\circ}\text{C}$). The data collection from the index will be compared with the subject's response toward the environment through the questionnaire.

16.3.5 *Field Observation*

Qualitative data was collected by field observation and capturing image of the site. Field observers spent about 10 h evaluating the social interaction and behavior; in addition to the paper-and-pencil audit measures, each observer took about a 2-hour pedestrian count and indicated the social behavior through observation toward response to environment for both lanes. The observation is by two observers on two lanes, Panglima Lane (see Fig. 16.6) and Concubine Lane (see Fig. 16.7). The observers will generate the data of people behavior and interaction along the lane. The images of the site have been captured to identify the elements that contribute to social behavior patterns of the subjects.



Fig. 16.6 People behavior and social interaction at Panglima Lane



Fig. 16.7 People behavior and social interaction at Concubine Lane

16.4 Results and Discussion

16.4.1 Survey Questions

Walking in a heritage city and strolling around the attractive places is one of the satisfying walking experiences. The condition of the environment is the aim in this study to evaluate a subject's response toward the environment while walking in the city. Hence, respondents' satisfaction levels on comfort were calculated and compared for both sites to determine the current walking environment conditions. According to the results (see Fig. 16.8), after comparing the satisfying factors that respondents identify, most of the respondents are satisfied with the business along the lane which is 100.0% satisfying with the social interaction in Concubine Lane (CL). Meanwhile, the most satisfying factor that gives a comfort of walking at Panglima Lane (PL) is thermal comfort (73.0%) because of the absence of living organism at the sidewalk setting. However, the second most satisfying at Concubine Lane (CL) is enjoyment and pedestrian facilities which are 97.0% and 92.0%, respectively, compared with Panglima Lane (PL) where the second most satisfying factors are enjoyment and aesthetic which are 62.0% and 50.0%, respectively. Minimum percentage of satisfaction for Concubine Lane (CL) was facilities for disabled people (3.0%) and for Panglima Lane (PL) (23.0%) was identifying on the satisfaction of the business that was held along the lane. Through this survey and the statistic that has been found, it shows that most of the respondents react toward the social interaction rather than comfort or the ambience of walking along the lane.

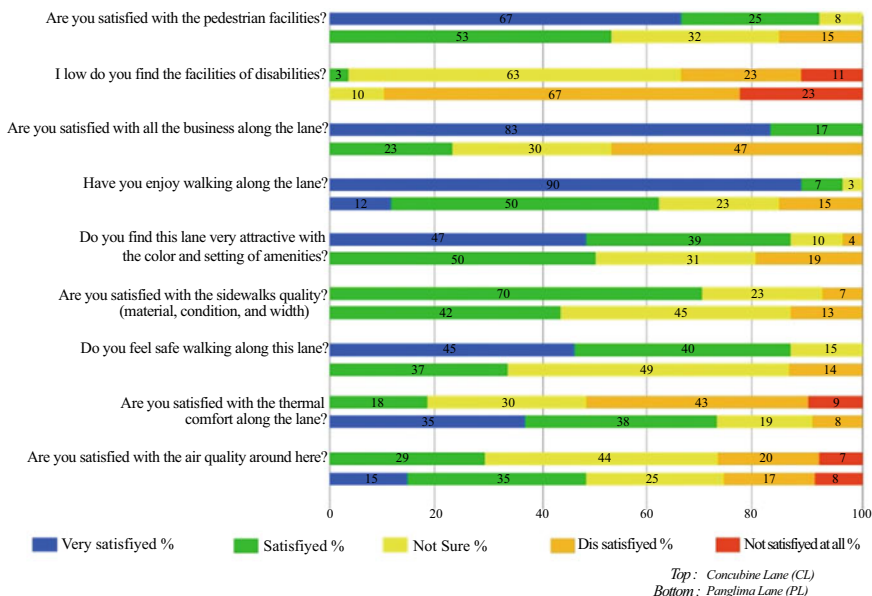


Fig. 16.8 People behavior and social interaction at Concubine Lane

This statistic shows activity support or social interaction also plays a significant role in giving a motivation and comfortable walking environment, leads people to walk, and gives a pleasant enjoyment of walking.

16.4.2 Thermal Comfort

People may have different thermal preferences in different contexts despite the thermal comfort indices indicating thermal parity. This study seeks to clarify whether people’s thermal preferences can be completely interpreted in terms of thermal indices or whether their preferences are determined by the combination of physical sidewalk settings and environmental factors. Moreover, in this study, the plot is just focusing on the data of air temperature (°C) (see Fig. 16.9). The energy reaching the earth’s surface in the form of direct or scattered radiation determines the temperature of both the surface of the earth and the lower atmosphere of the earth which, in turn, determines the evaporation capacity and climatic features (Baróti 1993).

From the data above, it is shown that the thermal comfort in Panglima Lane is cooler and comfortable during daytime from 9 a.m. to 6 p.m., and the average temperature is 29.8 °C. Meanwhile, in Concubine Lane, the temperature is a bit higher, and the average temperature is 31.8 °C. Through this tool measuring, it has been observed that Panglima Lane is having more thermal comfort than Concubine

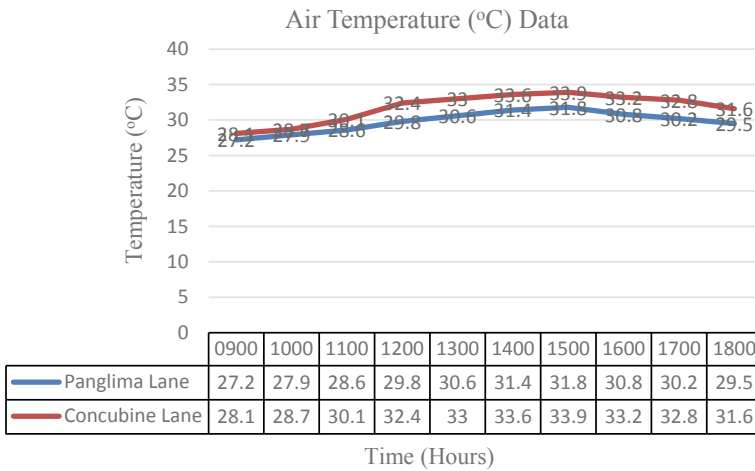


Fig. 16.9 Comparison data of air temperature at Panglima Lane and Concubine Lane

Lane. Therefore, the data is in correlation and parallel with the finding from the questionnaire earlier regarding thermal satisfaction.

16.4.3 Social Behavior Pattern

Observing behavior means systematically watching people use their environment, individuals, pair of people, small groups, and large groups (Zeisel 1984). Through this method, the data about people’s activities and relationship needed to sustain them is generated. However, in this study, the action and reaction of observations are controlled. Thus, through this field observation, behavior can be described in terms of actor, act, significant others, relationships, context, and setting. The following illustrations are verbally annotated to show the relationship of people’s behavior and environment in actual situation (Fig. 16.10). The illustration shows the difference between peoples’ social behavior toward two different lanes (walking environment). The three colors represent people’s interaction for each duration, either morning, afternoon, or evening in each lane.

From the illustration above, it shows that Panglima Lane has less social interaction and people’s movement except in the morning. It is also observed that, the increased social behavior at the junction Jalan Bandar Timah in the morning is because of the supporting activity which occurs from Kong Heng Restaurant at the junction. Meanwhile, along Concubine Lane, from the morning until the late evening, the social interaction and people movement are continuous. From Fig. 16.1 earlier, it can be concluded through the observation that the lane is active due to the business or social interaction that is held along the lane even when the comfort of the ambience is lower than that of Panglima Lane. The silhouette from the building (see Fig. 16.11) enables



Fig. 16.10 Observed behavior pattern on site

Fig. 16.11 Walking environment at Concubine Lane



the people to walk through the lane, providing walking environment. Silhouette gives shade and reduces the direct solar radiation effect on the users.

16.5 Conclusion

In the context of comfortable ambience with a good thermal comfort that gives a pleasant ambience to the user, Panglima Lane can be categorized as the comfortable walking environment lane rather than Concubine Lane due to the placement of tree shades and silhouette of the building that give a protection from the solar radiation and increase the heat along the lane. From the comparison of quantitative data in this study, it was strongly agreed that shades from the trees along the lane together with the silhouettes of building give a cooler temperature and pleasant walking environment to the users. However, in the context of social interaction or people behavior, from the results, it is shown that Concubine Lane is more successful in attracting people and motivating them to walk through the lane. The social interaction, mostly 90%, happens in Concubine Lane. Although the ambience and the temperature are not quite pleasant for the people to walk, the supporting activities along the lane really lead people to walk under the silhouette of the building.

This study concludes that silhouette or shades is not solely the main point that leads people to participate in a walking environment. This study has proved that the cooler temperature with pleasant ambience for walking is not solid enough to lead and motivate people to walk. Therefore, the condition of environment that can lead people to walk and give a pleasant and comfortable ambience is not solely focusing on the intangible elements such as comfort but must be parallel with the activity support that can attract people through the senses.

For instance, people are more attractive to the sidewalks where they can smell the tasty food and where they can hear the noise from the seller and see the visual from color of the signage or building rather than sidewalks that are quiet, windy, and monotonous in color. Silhouette or shade is just a minor element that contributes to a walking environment, and it is not the main factor for motivating people to walk. Thus this situation shows that people have the tendency to walk where there are facilities and need to stroll around the area and not just focus on the thermal ambience. Furthermore, this study can contribute to the findings for further research through the walking environment context for the implementation of sustainable city ecosystem assessment.

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Chapter 17

Perceived Sensory Dimension for Mental Health and Well-Being: A Review



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and Nubli Abdul Wahab

Abstract The World Health Organisation (WHO) stated that by the year 2020 mental health is expected to be the world's major concern. It is well known that stress may cause mental health problems such as anxiety and depression. Research shows that stress can be reduced by having or experiencing a green environment. This will stimulate the sensory neurons to have a restorative effect. Therefore, any activity related with a green environment will contribute to maximising sensory effects and optimising positive benefits to health. Having an activity in a green environment will contribute to one's mental health and well-being. For example, by just viewing greeneries which is a sense of sight, it can contribute to a reduction in the stress level. However, it is best to activate other senses as well. This will definitely affect the quality of life. There are eight perceived sensory dimensions as stated in the literature. Thus, this study aims to critically review the Perceived Sensory Dimensions (PSDs) and green environment, particularly with regard to mental health and well-being. This study is vital to explore the understanding and importance of green environments through the perceived sensory dimensions (PSDs) for mental health and well-being. This study will also contribute to the sustainability of mental health and well-being, especially for ASEAN societies.

Keywords ASEAN · Green environment · Health · Perceived sensory dimensions · Sustainability · Well-being · Restorative · Healing · Therapeutic · Green

17.1 Introduction

The aim of this study has been to explore the understanding and importance of a green environment through the perceived sensory dimensions (PSDs) for mental health and well-being based on previous researches. The review was based on 15 research works

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that were retrieved on 3 April 2019 at 3:00 p.m. by using the search string ‘perceived sensory dimension’ in the Scopus database.

This paper starts with the background of the study which consists of a brief discussion on sensory and the theories underlying the research. Next, this paper continues with the literature which discusses the history of the development, elements and implementation of the PSDs and their benefits. The implementation items have been described based on the place tested and purpose, research process and research result. Table 17.1 shows the list of the reviewed research. Later, the authors can be referred to by the number from the table.

An extensive amount of research shows that human stress and burnout symptoms can be reduced with the impacts of nature (Plambech et al. 2015; Grahn and Stigsdotter 2010). Previous research shows that there is a relationship between the sensory perception of natural environments and human health (Plambech et al. 2015).

Therefore, as for the goals at the end of this review, researchers will have an overview of the PSDs in order to optimise the benefits of a green environment. In addition, the knowledge will improve human well-being and also contribute to a sustainable design and lifestyle.

17.2 Background of the Study

The natural environment has a positive effect on health, especially mental health. Natural elements, such as trees, leaves and vegetation, have an exclusive benefit for mental refreshment. Moreover, their research hypothesised that seeing a vegetated environment would result in a positive mood and reduce perceived effort.

Previous research also supports that interacting with natural environments has a positive effect in relation to mental and physical health healing (Lottrup et al. 2013). A number of studies have also related a natural environment with stress reduction (Lottrup et al. 2013; Staats et al. 2003).

17.2.1 Sensory

Sensory information will be transferred and registered by the sensory cells or organ, and it will be interpreted by the brain using coding. In order to interpret the sensory effects, there are three different processes involved, which are sub-symbolic, symbolic imagery and symbolic verbal. In some way, with an unstable condition, when people are feeling poor, it will affect the process. In this situation, sensation or images from the environment will mediate the information from these three systems. The integration process will act as a catalyst, sparking creative processes that are important to mental restoration (Grahn and Stigsdotter 2010).

A green environment is one which contains many perceived elements that contribute to the process of restoration. There are many sources of the perceived elements

Table 17.1 List of reviewed research

No.	Author(s)	Title
1	Qiu (2015)	Are perceived sensory dimensions a reliable tool for urban green space assessment and planning?
2	Chen et al. (2018)	Application of the eight perceived sensory dimensions as a tool for urban green space assessment and planning in China
3	Memari et al. (2017)	Relationship between perceived sensory dimensions and stress reduction in care settings
4	Maikov (2013)	Landscape characteristics in Tartu City Parks: user influences through design
5	Lottrup et al. (2013)	Associations between use, activities, and characteristics of the outdoor environment at workplaces
6	Lottrup et al. (2012)	Associations between use, activities, and characteristics of the outdoor environment at workplaces
7	Plambech et al. (2015)	The impact of nature on creativity—a study amongst Danish creative professionals
8	Jong et al. (2012)	Perceived green qualities were associated with neighborhood satisfaction, physical activity, and general health: results from a cross-sectional study in suburban and rural Scania, southern Sweden
9	Mytton et al. (2012)	Green space and physical activity: an observational study using a health survey for England's data
10	Pazhouhanfar et al. (2013)	Effect of the characteristics of urban natural landscapes in increasing the perceived restorative potential of urban environments
11	Grahn and Stigsdotter (2010)	The relation between the perceived sensory dimensions of urban green space and stress reduction
12	Karlsson et al. (2017)	Forest design for mental health promotion—using perceived sensory dimensions to elicit restorative responses
13	Peschardt and Stigsdotter (2013)	Stressed individuals' preferences for activities and environmental characteristics in green spaces
14	Lottrup et al. (2012)	The qualities of natural environments that support the rehabilitation process of individuals with stress-related mental disorders in nature-based rehabilitation
15	Lottrup et al. (2013)	Workplace greenery and perceived level of stress: benefits of access to a green outdoor environment at the workplace

Table 17.2 The four factors that are important for a restorative feeling (adapted from Kaplan et al. 1998)

Attention Restoration Theory (ART)	
Fascination	Nature is full of objects of fascination in flora, fauna, water and the endless play of light. Humans also tend to be fascinated with natural processes, such as growth, succession, predation and even survival itself
Being away	Settings that differ from the normal surroundings, making it possible to obtain a distance to the mental routines in your normal surroundings Restorative
Extent	Restorative settings are often described as being in a whole different world. It is about being in a large enough setting that its boundaries are not evident Nature
Compatibility	It is about compatibility between one's inclinations and environmental circumstances

that are needed to be organised in a hierarchy order to show which is the most preferred in order to restore mental health. Therefore, the Gestalt theory has been used to categorise the perceived signals.

17.2.2 Theories of Human–Nature Interactions

In a hectic lifestyle, nowadays, mental health is also affected and support is needed to heal the effects of this chaotic lifestyle. As mentioned by Peschardt and Stigsdotter (2013), restorative environments allow the brain to recover. In addition, Peschardt and Stigsdotter (2013) and Kaplan characterised four psychological components that support a restorative environment under the attention restoration theory (ART). The components are Fascination, Being away, Extent and Compatibility, as shown in Table 17.2.

17.3 Literature

17.3.1 History of Development

Over the last 30 years, as stated by Chen et al. (2018), there are several classifications to evaluate parks and green space. However, eight perceived sensory dimensions is the latest version and it has been developed and tested at a Nordic or Scandinavian country. Perceived sensory dimensions (PSDs) are based on a questionnaire survey

of respondents who reported their preferences from a long list of natural qualities (Grahn and Stigsdotter 2010).

17.3.2 Elements

Research indicates that people perceive green spaces in terms of eight sensory dimensions, which are nature, space, prospect, rich in species, culture, refuge, social and serene. Generally, people prefer the dimension of serene, followed by space, nature, rich in species, refuge, culture, prospect and social. However, the preference may change due to various factors, such as mental condition; a combination of refuge, nature and rich in species and a low or no presence of social could be the sequence of preferences for a restorative effect (Plambech et al. 2015; Grahn and Stigsdotter 2010). Support by previous research shows that people who reported facing high levels of stress had preferences of certain characteristics, which were refuge, nature and rich in species. However, they did not enjoy social.

The definition of each element is consistent with each research work, but the differences are at the examples due to the implementation area. Therefore, the researcher has only shown one source of description on the PSD elements in Table 17.3 for reference purposes of this paper only.

Table 17.3 The eight perceived sensory dimensions (PSDs) (Grahn and Stigsdotter 2010)

No.	Elements of the PSDs	Descriptions
1	Serene	Sensation of being in an undisturbed, calm and safe environment, e.g. silent and peaceful, not too many people, no noise and no litter
2	Nature	Sensation of the inherent force and power of nature, designed and manifested on nature's own terms, e.g. wild and untouched
3	Rich in species	Sensation of finding a wide range of expressions of life, e.g. many animals and flowers
4	Space	Sensation of spaciousness and freedom, and having a certain amount of connectedness, e.g. space and free, and not disturbed by too many roads and paths
5	Prospect	Sensation of open and plain view, e.g. flat and well-cut lawns with scattered trees
6	Refuge	Sensation of an enclosed and safe environment where people can play or watch other people being active, e.g. safe, benches and play equipment
7	Social	Sensation of an environment that is equipped for social activities, e.g. entertainment and exhibition
8	Culture	Sensation of cultivated, man-made surroundings shaped by history and/or culture, e.g. decorated with fountains, statues and ornamental plants

17.3.3 Implementation of the PSDs

This section will discuss how previous researchers implemented the PSDs in their research works. Therefore, it consists of several tables that simplify the point under each theme, which are the place tested and purpose, research process and research result.

Based on this limited number of papers, it shows that numerous studies have been carried out in Western countries, especially Scandinavian countries, which are the origin of the PSDs. However, limited studies have been carried out in ASEAN countries. In addition, most of the research was conducted for urban green areas. Nevertheless, workplace green areas have also been tested by previous researchers. Moreover, as for the purpose of the studies that are related with the PSDs, it is common to study the effect or relationship of a green environment on/with humans. However, the differences are at the target respondents or the area of green. As an example, some of the studies focused the stress or mental restorative effect. Other than focusing on mental health, some researchers examined the green effect with activities at the green environment. The details of the place tested and purpose have been shown in Table 17.4.

Most of the research works used questionnaires, and some of them added photos to get the feedback. Interviews and expert assessments have been used to get the feedback. Generally, it depends on the purpose of the study to suit the data collection process. Table 17.5 shows the instrument and respondent for each of the previous research works.

The result shows that the preferences of the elements are different based on several factors. As an example, in normal human situations, the social element might have a higher preference. However, it may differ if the respondent is in a stressed condition. Moreover, other psychological effects, such as creativity, also have relationships with green environments as proved by the previous research. Table 17.6 shows the detailed results for the 15 previous research works.

17.3.4 Benefits

The recreational experience of the green space is perceived as a very important contribution to people's well-being. Therefore, the results can be applied in urban green space planning and management in a diversified way to enhance people's well-being and can also help decision-makers to formulate relevant strategies in tune with public needs and expectations. For instance, the recreational quality could be enriched by changing the design and management of urban green spaces based on the eight sensory dimensions.

Table 17.4 Place tested and purpose

Author	Place	Purpose
1	Urban green space in Helsingborg, Southern Sweden	Urban green spaces experienced by lay people and their relationships with green space attributes
2	Hefei, China	Examined the representations of the eight sensory dimensions as perceived by Chinese people in different types of green spaces, and to identify the relationship between the eight sensory dimensions and preference
3	Golestan, Iran	To identify the environmental characteristics of restorative natural environments by determining the PSDs with restorative potential in order to provide evidence-based design recommendations for care settings
4	92 urban green spaces (UGS) of the Estonian city Tartu	To prove statistically how the parks are influenced by landscape elements
5	9 (nine) small public urban green spaces (SPUGS) in the dense city of Copenhagen, Denmark	To see whether park characteristics are associated with the perceived restorative effects
6	Companies in Denmark	Effect of physical activity and reduced stress levels at outdoor environment workplace
7	Denmark	Relation to nature as well as their experiences of nature's ability to stimulate their creativity
8	Suburban and rural Scania, Sweden	Associated with three self-reported indicators of well-being: neighbourhood satisfaction, physical activity and general health
9	United Kingdom	To increase the levels of physical activity of individuals living in areas with more green space
10	Students from Universiti Putra Malaysia	To examine the role of the visual characteristics of urban natural landscapes in increasing the restorative potential of urban environments that led to reducing mental fatigue and moving towards public health
11	Swedish cities (representative)	The research indicated that there was a relationship between the sensory perception of natural environments and human health

(continued)

Table 17.4 (continued)

Author	Place	Purpose
12	University students Denmark	To identify which qualities and perceived sensory dimensions (PSDs) of a forest environment are psychologically restorative
13	Sweden	Outdoor activities in urban green spaces might be a promising means to lower levels of stress
14	Sweden	The aim of this study was to identify specific locations (compatible supportive environments) and their qualities, which clients undergoing nature-based rehabilitation experienced as support for their rehabilitation process
15	Sweden	The aim of this study was to investigate whether access to a green outdoor environment at work is related to employees' perceived levels of stress and attitudes towards the workplace

Table 17.5 Research process

Author	Instrument	Respondent
1	Questionnaire	Green space visitors
2	Questionnaire	Users
3	Questionnaire visual assessment (photo-questionnaire)	Students of Golestan university in Gorgan, Iran
4	Expert group	
5	On-site questionnaire survey	Users of small public urban green spaces (SPUGS)
6	Web-based questionnaire	Companies
7	Semi-structured interviews with images	Companies
8	Questionnaire was mailed	Randomly selected from the population registry
9	Survey of interviews	English population
10	Image	120 undergraduate students (43 males, 77 females) from University Putra Malaysia
11	Postal questionnaire with pre-coded questions	Nine Swedish cities (representative of the Swedish population) answered
12	Interviewed about their experiences	48 female university students in Denmark

(continued)

Table 17.5 (continued)

Author	Instrument	Respondent
13	Postal questionnaire	Randomly selected informants, representative of the Swedish population
14	Interviews and location mapping	All being treated for stress-related mental illnesses
15	Questionnaire	Randomly selected individuals in Sweden

Table 17.6 Research results

Author	Results
1	(1) prospect, then serene and space were the most common, and culture and social the least; (2) the experience of the sensory dimensions varied across the six study sites and was related to their diversity of biotopes and overall size; (3) respondents' experiences of the sensory dimensions were consistent across gender, age, frequency and type of recreational use
2	Social was common, whilst culture and rich in species were the least common
3	Serene, nature and refuge were identified as the three most important PSDs resulting in stress reduction, with a negative impact of rich in species and social on restoration. Therefore, the combination of serene, nature and refuge together with the absence of rich in species and social create an environment offering stress reduction. Result found that there is a positive and strong relationship between PSDs and restoration
4	Tartu is a healing city based on greeneries
5	'Social' and 'serene' were significantly associated with the average users' perceived 'Restorativeness nature' becomes important for the most stressed individuals
6	Significant relationships between the outdoor activities and perceived sensory dimensions (PSDs) of the outdoor environment were found, indicating that the presence of the dimension 'serene' increased the odds for respondents going outdoors and that five of the eight activities would be performed
7	'Nature', 'Space' and 'Serene' seemed to be of particular importance for the creative professionals
8	More satisfied, more involved in physical activity and more good impacts on health
9	Positive association was found between green space and physical activity levels. No association was found between green space and types of physical activity normally associated with a green space. An association was found with other types of physical activities (gardening and do-it-yourself, and occupational physical activity)
10	The result of this study showed the role of predictors of visual preference as characteristic of urban natural landscapes in increasing the PRP of urban environments

(continued)

Table 17.6 (continued)

Author	Results
11	People, in general, prefer the dimension of serene, followed by space, nature, rich in species, refuge, culture, prospect and social. The dimensions of refuge and nature are most strongly correlated with stress, indicating a need to find the most restorative environments. A combination of refuge, nature rich in species and a low or no presence of social could be interpreted as the most restorative environment for stressed individuals
12	Serene, rich in species, refuge and nature were the dominant factors rated the highest with regard to restoration
13	The most preferred activity type amongst the most stressed informants was 'rest activities' followed by 'animal activities' and 'walking activities'. For activity sensory, 'rich in species', 'animal activities' in the PSD 'refuge' and 'rest activities' in the PSD 'nature'
14	Garden
15	Significant relationships were found between physical and visual access to workplace greenery, a positive workplace attitude and decreased level of stress for male respondents. For female respondents, a significant relationship was found between the physical and visual aspects

17.4 Conclusion

Extensive research has been carried out in Western countries of which the green environment might be similar to that of the origin country of the PSDs. Therefore, the results might also be consistent when compared to each other. Geographical factors such as weather may contribute to the landscape of green and the effect of the perception of nature to the humans. Hence, research could be conducted with different environmental contexts and with different green space users (Qiu 2015) to be recognised widely as a tool to measure green effects. The result from this measurement can be a piece of strong evidence, and a valid recommendation can be given to policy-makers concerning the application of the eight sensory dimensions in urban green space planning, design and management.

Moreover, currently, many buildings have been incorporating green areas or gardens at the organisation's building, especially to obtain the Green Building Index certification. However, in the assessment are not included the occupants' needs for green; it is more focused on energy efficiency. As supported by a recent review of studies, it shows that the environment has an influence on the health, including the mental and physical aspects. However, sometimes these two elements have been looked at individually, such as under the term of 'Environment and Health' and 'Energy in Building'. Moreover, controlling the energy consumption will contribute to the occupants' comfort and healthy environment which may positively affect health. As reinforced by Ortiz et al., the lack of interaction between the environmental aspects in a building could have a strong impact on health.

In the near future, researchers will use the PSDs to measure the green effect in Malaysia which is under the Southeast Asian countries category, to see the result.

Furthermore, it will be related with the green environment and mental health in buildings that have incorporated green areas in their building design. The result would contribute to the improvement of health and well-being, and also to the sustainability effect.

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Chapter 18

Students' Perceptions of Education for Sustainable Development (ESD) to Achieve SDG 4 in Indonesia: A Case Study of Universitas Islam Riau



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Abstract Sustainable development at higher education level plays an important role in achieving the Sustainable Development Goals (SDGs). Higher education holds a great responsibility to increase the awareness and knowledge of students who will manage and develop resources. For the purpose of the sustainability of resources, awareness and knowledge of sustainable development are needed. This knowledge can be conveyed through Education for Sustainable Development (ESD) to achieve high education quality and equal access to education for women and men. Perception

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of ESD must be studied to gather information about the facts, problems and challenges faced by Universitas Islam Riau (UIR) to achieve SDGs, especially SDG 4 (Quality Education). This study aims to identify the perception students of both genders at Universitas Islam Riau (UIR) hold about Education for Sustainable Development (ESD). This research is a descriptive survey research conducted using a quantitative approach. There were 99 respondents in this study, consisting of 43 men and 56 women. Data was collected by distributing questionnaires containing 70 statements, while processing of questionnaire data was done through the frequency analysis formula. Generally, the results of social, environmental and economic aspects in the 'Good' category are between 71.08 and 78.75%. Based on gender, both female and male students scored a higher percentage in economic aspect than other aspects, whereby female students scored 77.76%, whereas it was 76.50% for male students. Based on this study, it can be concluded that the students of Universitas Islam Riau have a good perception of Education for Sustainable Development. Therefore, the University must begin to apply the concept of sustainable development in every aspect in order to contribute to achieving SDG 4.

Keywords Education for sustainable development · Students' perception · Sustainable development goals · Quality education

18.1 Introduction

To ensure planet sustainability, in September 2015, UN member states agreed to establish 17 Sustainable Development Goals (SDGs), which include social, environmental and economic dimensions (Sustainable Development Solutions Network (SDSN) 2015). To achieve these goals, ESD is expected to empower all levels of society to be able to plan, overcome and find solutions to problems that threaten the sustainability of our planet (UNESCO 2005, 2015). Education for Sustainable Development (ESD) is the main media for achieving sustainable development goals, especially SDG 4 (Quality Education); point 4.7 strives to ensure that all learners obtain the knowledge and skills needed to promote sustainable development through education for sustainable development and practicing a sustainable lifestyle (UNESCO 2017, 2018a).

SDG 4 proposes equal and inclusive education related to the implementation of the other 16 SDGs, which focus on promoting peaceful and inclusive communities, to build effective and responsible institutions at all levels. SDG 4 advocates to ensure education that is inclusive, is equitable and promotes lifelong learning opportunities for all. It is targeted that by 2030, all boys and girls will have access to free, fair and quality primary and secondary education, thus leading to relevant and effective learning outcomes. This is also to ensure that all learners acquire the knowledge and skills needed to promote sustainable development through sustainable lifestyles, human rights, gender equality and global citizenship, promoting a culture of peace and brotherhood (Nazar et al. 2018; UNESCO 2018b; Webb et al. 2017).

According to Kanyimba et al. (2014), the goal of ESD is to transform environmental, social and economic aspects of society to sustainable levels. Mogren et al. (2019) stated a specific goal of ESD is to improve learning that helps students to become responsible individuals, thereby fostering sustainability in hopes of maintaining world equity and conservation of natural resources at local and global levels. Quality education in the area of SDGs increases the ability of students to overcome various global sustainability crises. Specifically, there are two pedagogical interpretations in ESD. The first is ESD as a means to transfer concepts of knowledge, attitudes and values that are appropriate to students. The second develops people who have pro-sustainability thinking so that they can apply that mindset in everyday life (UNESCO 2009). Therefore, quality education that integrates ESD perspectives includes measurable learning targets of the Global Action Program on ESD and Sustainable Development Goals (SDGs) in 2015 as a pathway for reform and improvement of global education (Ofei-Manu and Didham 2014).

A university campus is defined as an institutional space designed to be used for education (Matloob 2018). It is an area that has unique features that enable it to assist a country in solving many challenges within the context of sustainable development implementation. A university, either directly or indirectly, performs various operations and activities that have the potential to impact the environment either positively or negatively. ESD has been widely implemented at university level in countries such as Japan, South Korea, China, Australia, Sweden, Ireland, South America, Namibia, Philippines and Malaysia (Abas et al. 2018; Anyolo 2015; Choi et al. 2008; Hassan 2017; Isa 2016; Kanyimba et al. 2014; Komatsu and Rappleye 2018; Laurie et al. 2016; Mogren et al. 2019; Mohanty and Dash 2018; Parello-marin et al. 2018; Pauw et al. 2015; Razak et al. 2011; Valencia 2018). In continuing to focus on developing countries, SDGs maintain the emphasis set by the Millennium Development Goals (MDGs), and consequently they are as likely to have the same partial success as MDGs (Pogge and Sengupta 2015; Webb et al. 2017), whereas in Indonesia, the development of ESD is carried out by each policyholder based on the interpretation of the concepts and directions outlined by UNESCO. Up to now, there has been no specific concept developed by various policyholders related to ESD development in Indonesia. Center for Education and Culture Policy and Innovation Research Center Ministry of Education and Culture in 2009 produced an ESD guide to education in Indonesia. Even so, based on the experience of many non-governmental organisations that assist a number of schools in various regions in Indonesia, socialisation from the authorities is still very minimal. Even in some regions a number of related officials still appear to have not mastered the concept of sustainable development and ESD.

The successful delivery of a higher education ESD strategy depends on the universities' understanding of sustainable development. The concepts of SD should be integrated into the policies, approaches and learning of all members of university stakeholders (administrators, faculty and students) (Filho et al. 2017). However, at the level of higher education in Indonesia, ESD is implemented through a sustainable campus or green campus programme. In the Voluntary National Reviews ((VNR) 2019), there are several universities that are incorporated into the centre for implementing SDGs

in Indonesia, such as Universitas Indonesia, Institut Teknologi Bandung, Universitas Padjajaran, Institut Pertanian Bogor, Universitas Hassanuddin, Universitas Jember, Universitas Mataram and Universitas Bengkulu. Meanwhile, based on the International NGO Forum on Indonesia Development ((INFID) 2016), Universitas Islam Negeri Sunan Kalijaga Yogyakarta, Universitas Gadjah Mada, Universitas Katolik Soegija Pranata, Universitas Hassanudin, Universitas Negeri Sebelas Maret and Universitas Katolik Widya Mandira explained the roles they played in achieving SDGs, starting from village community service programmes to conducting research on the development of development models for a sustainable city.

However, Universitas Islam Riau (UIR) as one of the universities located in Riau has not taken up the role to meet SDGs explicitly. Factors like lack of commitment of university management towards sustainable campus and the lack of awareness about ESD are considered to affect the mindset and attitude of UIR students in leading a sustainable lifestyle. To achieve the goal of a sustainable campus, it is necessary to conduct research related to student perceptions of Education for Sustainable Development, which will be the first step to establish the starting point of the ESD integration journey at this university.

18.2 Method

This study uses a quantitative descriptive survey approach. The survey was conducted by distributing questionnaires to respondents. Determination of the number of samples was done using the Slovin formula, resulting in 99 students from 10 different faculties selected as respondents. Because this study also investigates perceptions of ESD by gender, the respondent pool consisted of 43 male students and 56 female students. Data was obtained by distributing questionnaires containing 70 statements to students directly by visiting each faculty in the UIR. The questionnaire was developed from three aspects of sustainable development, namely social, environmental and economic. Processing of data was done using a frequency analysis formula (Sudijono 2011) as shown below:

$$P\% = \frac{F}{N} \times 100 \quad (18.1)$$

Explanation:

P Percentage,

F Frequency,

N Number of respondents.

To determine the extent of students' perceptions of the ESD concept, the percentage figure obtained was adjusted to the set criteria (Riduwan 2016), presented in Table 18.1.

Table 18.1 Score interpretation criteria

Number (%)	Category
0–20	Not good
21–40	Less good
41–60	Enough good
61–80	Good
81–100	Very good

18.3 Results and Discussion

Based on the results of the survey conducted, the perceptions of Universitas Islam Riau students about Education for Sustainable Development fit in the 'Very good' category with an average percentage of 83.13%. The results of the study focused on aspects of sustainable development (sociocultural, environmental and economic aspects). The results obtained from each aspect of sustainable development are presented in Table 18.2 and Fig. 18.1.

Table 18.1 shows that the results of frequency analysis obtained an average percentage of 74.71%, meaning that students already have a good understanding of the concept of ESD based on sustainability aspects. Previous studies show that student

Table 18.2 The results of the analysis of each indicator

No.	Indicator	Percentage (%)	Category
1	Social	74.3	Good
2	Environmental	71.08	Good
3	Economic	78.75	Good
Total		224.13	
Average (%)		74.71	
Category		Good	

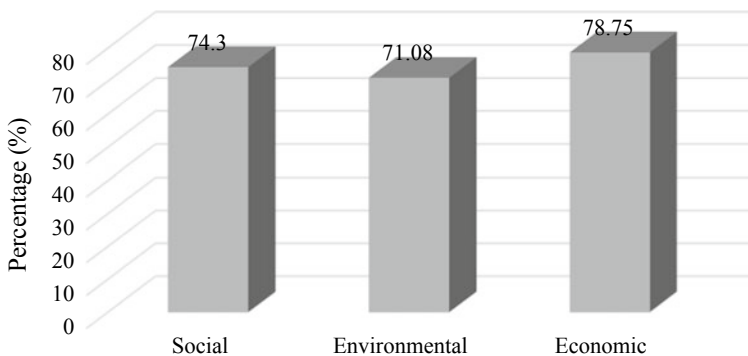


Fig. 18.1 Percentage results from each indicator

perceptions of sustainable development are also positive (Kagawa 2007; Sharma and Kelly 2014; Zeegers and Clark 2014). For example, Zeegers and Clark (2014) through the analysis of students' views on environmental aspects showed that students can develop more balanced perspectives of sustainability, highlighting their existing good understanding of the subject matter. Furthermore, Kagawa's (2007) study of students' understanding and perceptions of sustainable development at the University of Plymouth found that the majority of respondents thought sustainability was 'a good thing'. Similarly, Sharma and Kelly (2014) explored the perspectives and students' understanding of ESD at Delta Business School (DBS) in New Zealand, whereby it found that most students considered ESD to be 'a good thing'. Students support the sustainable business learning experience offered at DBS.

Figure 18.1 depicts that economic aspect scored the highest percentage at 78.75%. Based on the responses to the questionnaire items relating to economic aspects, it shows that students have a good perception of the concept of ESD. Economic aspects are considered important by students to be applied in learning to achieve a sustainable life. Analysis of economic processes in various countries shows that rapid economic growth has caused serious problems from the point of view of sustainable development, such as social and regional inequality, the dramatic loss of rural infrastructure and environment (Kruja 2013) depletion of natural resources and deteriorating environmental services (Kurniawan and Managi 2018). Indirectly, current economic growth will hinder the achievement of SDGs. According to UNESCO (2017), special learning objectives (ESD) must be seen in tandem with cross-sectoral sustainability competencies. For example, one specific learning goal for SDG 1 (No Poverty) can be defined as students knowing about the causes and effects of poverty. This knowledge can be obtained by conducting case studies of poverty in certain countries. At the same time, this learning activity will affect one's thoughts or perceptions that many factors influence poverty, so students are expected to be able to understand the complex interrelationships with other SDGs.

The environmental aspect scored the lowest percentage at 71.08%, but still placed within the 'Good' category. Based on the response to the questionnaire items relating to environmental aspects, it portrays the perspective held by students of the current state of the environment which is threatened by sustainability. Diminishing natural resources are influenced by human attitudes and behaviour in managing them. The Convention on Biological Diversity ((CBD) 2006) states that understanding the impact of biodiversity on human welfare needs to be included in basic education programmes and promoted through mainstream media. This is important to develop the potential of students so that they can face global challenges in environmental sustainability (UNESCO 2013). For this purpose, natural systems including environmental issues relating to water, energy, waste, transport, climate change and biodiversity need to be integrated into subjects of higher education, teaching resources, knowledge, skills, attitudes and values of lecturers in universities (Kanyimba et al. 2014).

Based on gender, the results found that the economic aspect scored a higher percentage than other aspects. Female students have a higher perception than male students in economic aspects. While the average percentage of all indicators is based on gender, male students (74.84%) obtained a higher percentage than female students

Table 18.3 The results of the percentage analysis of each indicator based on gender

Indicator	Male (%)	Female (%)	Category
Social	74.79	74.57	Good
Environmental	73.24	71.31	Good
Economic	76.50	77.76	Good
Average	74.84	73.21	Good

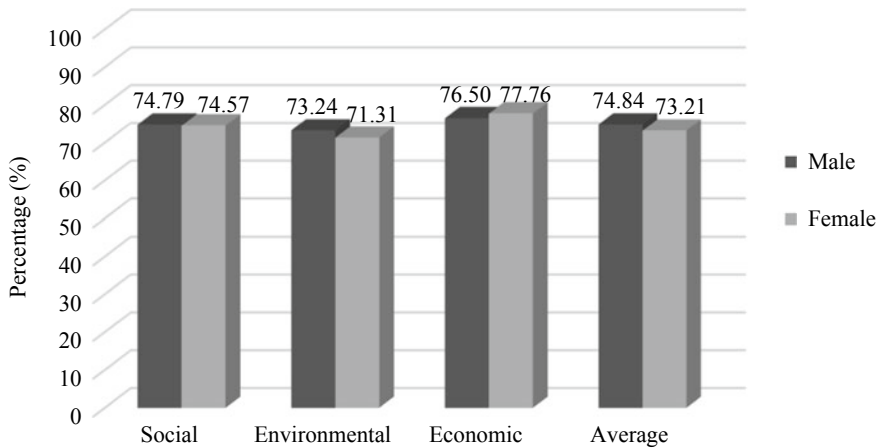


Fig. 18.2 The results of the percentage analysis of each indicator based on gender

(73.21%), but both groups still fall within the ‘Good’ category. The results obtained from each aspect of sustainable development based on gender are presented in Table 18.3 and Fig. 18.2.

Table 18.3 and Fig. 18.2 show that the average percentage of male students is higher than female students. The results of the frequency analysis of male students obtained an average percentage of 74.84%, while for the female students, it was 73.21%. This is because men better understand the concept of sustainable development based on the reasons given compared to women. However, this is in contrast with the results of research conducted by Tuncer (2008) on the perception of Middle East Technical University students (METU) towards sustainable development, which found that male and female students have perceptions at the same percentage. Likewise, research conducted by Al-naqbi and Alshagan (2017) showed that the attitudes of female students towards SD/ESD were similar to those of male students.

This particular research is crucial to help reflect the extent of ESD integration currently at Universitas Islam Riau. Student perceptions are considered important to identify and design the most appropriate strategies for ESD integration at the higher education level because implementation of ESD requires contributions by students.

Figure 18.3 is ESD integration framework, based on ESD indicators (UNESCO 2018c). ESD integration is determined based on relevant content and the use of methods, which are determined through the curriculum. For successful ESD integration,

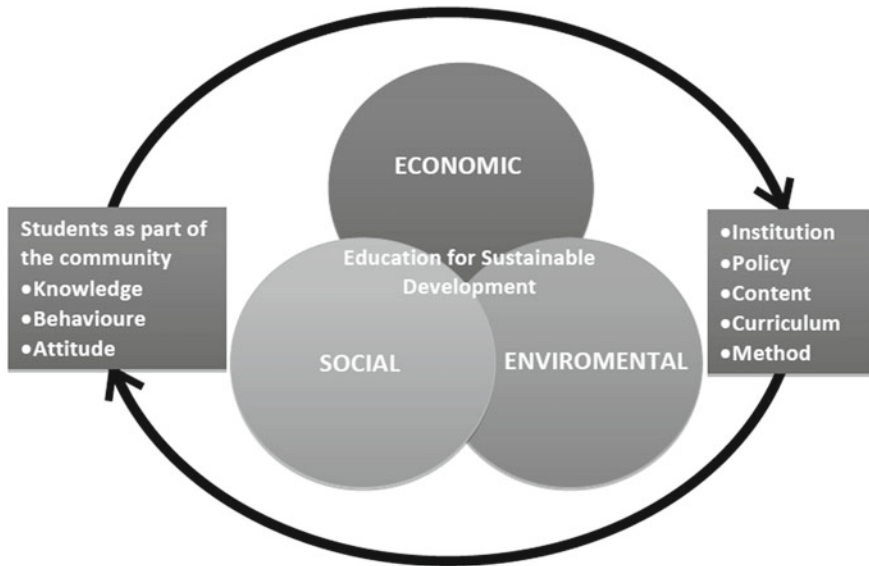


Fig. 18.3 ESD integration framework

institutions and policies that are relevant to the concept of sustainable development and society are required. In higher education institutions, factors of leadership, teaching staff and students are crucial in applying the concept of sustainable development through sustainable campuses. Students are future decision-makers and act as agents of change. They must develop a thinking and acting pattern in accordance with the concept of sustainable development, which will encourage them to contribute, support and manage a successful campus and even create a more sustainable city (Abubakar et al. 2016; Mcmillin and Dyball 2009). Efforts can be made by providing complete access to education to male and female students for them to develop their potential in various fields of knowledge. Knowledge of sustainability is needed to treat sustainability as an environmental problem related to ecosystems or natural resources. Knowledge of cognitive elements related to mental actions such as perception, memory, learning and prediction of information will influence student behaviour to contribute to the achievement of SDGs (Salas-Zapata et al. 2018).

Challenges for universities in realising SDGs include devising action plans to deal with climate change, improve health and well-being, provide equal education for all and other global problems that require student involvement (Chelliah et al. 2017; Shahrullah et al. 2014). On the other hand, universities should not solely assume responsibility to promote economic, environmental and sociocultural growth for the community.

There are several criteria representing education in sustainability. Husaini and Jusoh (2017) highlighted five educational indicators for sustainable university ranking table which are the ratio of student to staff, percentage of graduated students,

number of international students, online presence and the percentage of graduate employment. Apart from that, curriculum is one of the important elements in education sustainability. Qian and Yang (2018) stated three basic principles of a green campus design, whereby it should be constructed to reduce environmental load in terms of facilities, operation process and prioritise environmental education. Krizek et al. (2011) stated that there are four phases in the effort to adopt sustainability measures, namely grassroots, executive acceptance case for sustainability, the visionary campus leader and fully self-actualised and integrated campus community. In the grassroots phase, efforts are made to advocate for various services and policies related to campus sustainability such as recycling, introducing environment-themed courses, improving pesticide applications, and boycotting sales of plastic bottled water. If it fails to advocate for programmes in this phase, it will be difficult to implement and coordinate other programmes for further progress. At the second stage, the leadership begins to assess the effectiveness of sustainability programmes by considering efficiency that reduces costs and enhances the reputation of the campus, for example, energy efficiency, water conservation and green branding/public relation events. The third phase sees the campus leadership openly promoting sustainability by including it in the university's vision and strategic plan. The fourth phase includes efforts by the university to encourage others to include sustainability in all areas of life on campus. This phase begins to apply and integrate the concept of sustainability in all components of the university, for example, in campus management, student life, staff and activities involving the community. According to Too and Bajracharya (2015), framework for community engagement includes factors such as psychological needs, physical facilities, personal motivations, public perception, price mechanisms and policies which are needed to mobilise and motivate community members to take practical steps towards building a sustainable campus. An observation by Husaini and Jusoh (2017) found that community participation in sustainability programmes is dynamic and intergenerational. The study suggested that it would require multiple components such as education, action, trust, inclusion and strong governance to develop effective community engagement.

Therefore, researchers consider several effective strategies for implementing ESD at the university level. First, a university directs the researchers or lecturers and students towards the global issue of development to support ideas and perspectives for achieving the SDGs. Secondly, policies are made to lead students, lecturers and staff to adopt an eco-lifestyle. Thirdly, efforts are made to create a green campus environment that can be adopted from an existing green campus or sustainable campus model.

18.4 Conclusion

The conclusion that can be drawn from this study is that students of Universitas Islam Riau have a good perception of Education for Sustainable Development. In order to achieve the goal of a sustainable campus, there needs to be a team effort from both students and the university, whereby the actions and voices of students

need to be accounted for. However, the implementation of sustainable development must begin with an awareness of the need to implement sustainability principles and practices, particularly among the stakeholders. Universities play a role in sustainable development through the processes of management, planning, development, education, research, operations, community service, purchases, transportation, design and construction of new buildings, renovations as well as retrofits. These are aspects that require support from the campus community to ensure effective implementation of a sustainable campus.

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Chapter 19

The Impact of Nearpod Interactive Learning Platform in Quality Accounting Education for Sustainable Development



Azrul Abdullah, Mohamad Fadhili Yahaya, and Norshamshina Mat Isa

Abstract This study believes that teaching an accounting course at a university level requires alternative as well as innovative methodologies to allow greater dynamic in the learning processes and to foster a better understanding of the accounting topics. In this sense, this study aims to investigate the effectiveness of online teaching tool as one of the platforms to enhance the learning process in accounting education. This study was conducted on the students of the Faculty of Accountancy, Universiti Teknologi MARA, Perlis Branch (UiTM Perlis). One hundred and two (102) accounting students participated in this study and answered the questionnaires at the end of the course. The analysis showed that online teaching tools (i.e., Nearpod) used in teaching accounting subjects have some influence on the attitudes and academic performance of the students. This study perceives that embracing technology as one of the teaching methods through a virtual mediator like Nearpod can equip students with more practical processes of learning and discerning of the subject matter.

Keywords Interactive classroom · Accounting education · Nearpod

19.1 Introduction

The twenty-first-century education has transformed the dimension of teaching approaches and practices to a new paradigm where the traditional approach of “chalk and talk” has been viewed not only as outdated but also somewhat irrelevant. This has led to the use of a more contemporary approach in line with the advent of information technology. Consequently, the process of teaching and learning has also been significantly affected. The teaching and learning of subject matters have also gone

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through a number of transformations. Similarly, the teaching of the subject matter like accountancy has not been left unturned. The use of information technology in teaching has been a blessing to many educators who keep abreast with the change. However, it can be observed that there are still some who remain ignorant about the use of information technology in the teaching and learning processes (see Mahoney and Welch 2002; Selwyn 2007).

With the Revolution of Industry 4.0 (IR 4.0), previous studies (e.g., see Edmunds et al. 2012; Gaviria et al. 2015) have highlighted subject matters like accounting should be taught using the best available tools to bring out the best outcomes regardless of the educational contexts. According to Gaviria et al. (2015), the use of other non-traditional forms of education can create better teachers and make significant impacts on teaching. She claimed that teaching accounting should use different perspectives and methodological approaches such as the social and educational constructivism, and philosophical and epistemological pragmatism in accounting. This is because the new generation of Internet savvy students (i.e., Gen Z) students often find traditional methods, of course, delivery through lectures and heavy assignment load which is difficult to be adjusted can result in poor educational outcomes and high attrition rates. This notion is supported by many publications which deal with problems related to the quality of the educational process and new approaches that aim to improve the effectiveness of accounting education (see Baepler et al. 2014; Beránek et al. 2016a, b; Jonsdottir and Stefansson 2014; Maqableh et al. 2015; Rotellar and Cain 2016; Zainuddin and Halili 2016). With the emergence of mobile devices and software applications, this study perceives that accounting education and its teaching processes can be enhanced using various educational technology tools in delivering information. It is also believed that interactively rich multimedia course contents that include audio, animation, web page, 3D, video, and assessment through e-learning platforms can make learning accounting topics more practical compared to the traditional lecture/discussion and assignments. Indeed, this approach can expose students to contemporary knowledge and pragmatic accounting.

Generally, accounting students of Universiti Teknologi MARA (UiTM), Perlis Branch, Arau Campus have been learning accounting conservatively. Lecturing and teaching using PowerPoint application, whiteboards, and textbooks have been the normal practice in a classroom despite being given the rights to choose materials for the class. With the availability of technology, this study urged that teaching accounting lessons should consist and allow more options for lecturers in presenting their course content. This can lead students to greater understanding as well as the applicability of the accounting discipline. In this regard, this study focuses on whether teaching accounting through technological resources (i.e., interactive classroom using Nearpod) can enhance UiTM Perlis Branch accounting students' performance. Therefore, this study examines the impact of implementing interactive learning on students' learning outcomes. Besides, this study also evaluates the effectiveness of interactive learning using Nearpod as perceived by the students of UiTM Perlis Branch, Arau Campus. In the following section (i.e., Sect. 19.2), related literature is reviewed. In Sect. 19.3, the implementation of an interactive classroom

application in UiTM Perlis Branch is discussed, while in Sect. 19.4, the results of the student survey are unveiled. Finally, in Sect. 19.5, the conclusions are presented.

19.2 Literature Review

Information and communication technology (ICT) can be defined as a set of information, electronics, and telematics technologies, using modern microelectronics, telecommunications, and computing to develop all kinds of devices, techniques, and processes that impact different areas of human life. In this regard, several previous studies, especially in the United States of America (U.S.), have shown that ICTs can improve learning by providing instant feedback and creating a more interactive classroom environment. It was found that an early study by Anderson et al. (2005) using a PC-based tablet system in learning environment showed that students were very active and collaborative to the system. There was also an increasing rate of engagement in the classroom. Consistent with Anderson et al.'s (2005) study, a study by Beuckman et al. (2007) also verified that an interactive system using web-based classroom can increase the learning outcomes of the introductory physical classroom. The study also claimed that web-based classroom can facilitate real-time two-way interactions between students and the instructors using personal digital assistants (PDAs). In another study, Jonsdottir and Stefansson (2014) have discovered a system for network-assisted education that can improve students' knowledge while practising the system. Using online drilled questions, this system allows students to continue requesting the questions and learn continuously until they understand the topic.

A study by Jamwal in 2012 also reported using interactive learning modules in classroom lectures was found to be more preferred. Online quiz activities were found to be helpful in improving and correcting student's faults. This finding was also supported in Baepler et al.'s (2014) study, whereby the authors revealed that learners' outcomes in active learning classroom have improved students understanding as compared to the traditional classroom approach. They reported the effects of "seat time" in a large chemistry lecture class were significantly reduced by two-thirds during an active learning classroom. Moreover, it was also found that several fields have also highlighted other useful approaches being utilized during the interactive classroom. A recent study by Beránek et al. (2016a, b) exhibited several new effective techniques that can be used to load and improve learning environments in university education. The study claimed the learning techniques that include Interactive Textbooks, Podcasts, Nearpod software applications, and the use of Ozobot in programming classes can make the learning experience more rewarding to both the students and the teachers. Several studies such as those of Swamidurai and Umphress (2016), Tucker (2012), and Shankaranarayanan and Amaldas (2016) also supported these suggestions and claim that those learning techniques can lead to better scores as well as develop cognitive capabilities and practical skills. In another study, Beránek et al. (2016a, b) in their study on the effects of interactive classroom applications

on student learning outcomes also supported the notions. They found that the use of Nearpod platform has significantly improved learning outcomes in the Programming course (Programming 1) and in the Introduction to Accounting course, but only minor improvements in the Business Economics course.

Consequently, as this study perceived that an ICT support approach can boost the students' development, it is necessary to employ new teaching tools that teachers and students can stimulate the processes of learning accounting. Nevertheless, this study realized the dynamic limitations of accounting education which include the lack of expertise, inadequate training, unwarranted roles of the lecturers, and unsupportive facilities. This means that ICT, in accounting education in higher institutions like UiTM Perlis, should be part of pedagogical and didactic scenarios where teachers function as facilitators. This shows the needs to combine different tools, materials, and elements along with new educational policies that encourage ICT-powered interactive accounting education. In this respect, engaging students in the learning process, particularly in Accounting, is a current topic of interest. Our main motivation for the implementation of the advanced interactive learning methods was triggered by the fluctuating attitudes on traditional learning methods and techniques among students. The change is the result of extensive exposure to various types of applications, services, and new technologies. The use of advanced learning techniques such as Nearpod application is believed to be able to develop students' interest in the taught subjects as well as improve their engagement in the learning process and ultimately lead to significant improvements in their academic performance.

19.2.1 Nearpod Software Application

Nearpod¹ (please go to www.nearpod.com) is an application accessible via Internet which can improve students' engagement during lectures and allow lecturers to have continuous and instant insights into the students' learning progress through formative assessments. Nearpod offers several online instruction tools that have an interactive and intuitive user interface, formative assessment platform in the form of quizzes and assignments as well as reference materials in the forms of study notes, video, audio, etc. The instructor can run Nearpod application with prepared quizzes and assignments during the session and administer exercises on specific topics. Nearpod generates a unique identifier for the session that enables students to be connected to a Nearpod session via a browser using various devices, e.g., tablets and laptops. On this basis, Nearpod is deemed to be a more favorable test platform over a traditional written test. Using Nearpod, lecturers can administer instant quizzes during lectures and save students' immediate responses for remedial purposes. Since the lecturer receives the responses instantly, immediate feedback can be provided to clarify

¹Nearpod is a software tool which enhances student engagement with interactive content, enables the collection and sharing of student responses, and tracks student understanding of the material in real time (www.nearpod.com).

some misunderstanding on the topics discussed during the session. Nevertheless, the development of revision questions, material, or assignments using Nearpod before the seminar or lecture class is required.

19.3 Methodology

In order to meet the objectives of this study, an online interactive classroom project was designed using Nearpod for students of two different accounting courses, particularly in the subject of Introduction to Accounting (ACC106) and Accounting information system (AIS235) in semester September 2018–January 2019. The reason for the selection of these two courses is to reflect the impact and usefulness of Nearpod technology on pure accounting subjects (i.e., ACC106) and computer-based accounting subject (AIS235). This study selected Nearpod as a proxy to engage and design interactive classroom because of its ability to support interactive sharing of contents as well as effective control of the online learning process. Besides, it also includes continuous feedback to students on their level of knowledge of the subject matter compared to other learning management system (I-Learn V3) currently prescribed by UiTM Perlis. During the session, students can interact with lecturers and submit responses through a range of mobile devices (e.g., iPads, iPhones, etc.) or using their own computer. Moreover, during the session, interactive learning in the form of overhead slides, audio, 3D visual, video, and live Twitter streams including assessment such as open-ended questions, polls, and quizzes can be used. Lecturers can also monitor and measure students' responses in an individual or collective form. More importantly, Nearpod allows the import of teaching materials from existing PDF and PowerPoint slides, thus minimizing the needs to redevelop new teaching materials.

This study used students' entrance and exit survey response from 102 students and the distribution of the final grades attained by the students at the end of the semester in order to examine the impact of implementing interactive classroom on learning outcomes in UiTM Perlis Branch, Arau Campus. Furthermore, this study also highlighted the impact of interactive classroom by comparing the entrance and exit survey data from other lecturers who taught the same course but did not use Nearpod technology in their class. In measuring the effectiveness of an interactive classroom using Nearpod among students in the courses, this study employed an online survey using Google Forms platform (apps.google.com). The survey form was divided into two parts. The first part included questions on the students' demographic (i.e., gender, age, and level of technology savvy) and the devices that the students used to access the Internet (i.e., desktop computers, laptops, tablets, and smartphones), and the second part consisted of a set of 13 questions on their assessment of the Nearpod application. A total of 100 from 102 students who attended the course completed the questionnaire.

19.4 Results and Discussion

19.4.1 Impact of Implementing Interactive Classroom on Learning Outcomes

To investigate the impact of interactive learning (i.e., using the Nearpod application), this study analyzed the learning outcomes attained during the semester of 2018/2019. As mentioned earlier, this study used three separate measurements to observe the impacts of using Nearpod on the learning outcomes.

Panel A, Table 19.1, presents the summary of learning outcomes based on the entrance and exit survey. An improvement in the learning outcomes can be observed before and after they completed the course. In general, this showed the Nearpod application can improve students’ understanding. Consistent with several previous studies (see Beránek et al. 2016a, b; Tucker 2012), these results supported the notions that alternative tools and teaching approaches can further improve the learning process using Nearpod interactive learning platform. Moreover, this study also compared the success rate of each course between lecturers who used Nearpod and those who

Table 19.1 Summary of the impact of interactive classroom and learning outcomes

<i>Panel A: summary of the entrance and exit survey results for the semester (using Nearpod)</i>					
Courses		No. of students	Entrance (average score)	Exit (average score)	
ACC106		26	2.5	4.5	
AIS235		76	4	4.7	
<i>Panel B: comparison of success rates for the courses</i>					
Courses		Using Nearpod	Not using Nearpod		
ACC106		95%	70%		
AIS235		100%	100%		
<i>Panel C: summary of grades attained by students</i>					
	No. of students	Excellent	Good	Pass	Failed
<i>Using Nearpod</i>					
ACC106	26	10	10	5	1
AIS235	76	13	60	3	0
<i>Not using Nearpod</i>					
ACC106	27	7	8	5	7
AIS 235	67	9	52	6	0

Note

Using Nearpod = ACC106 (26 students), AIS235 (76 students), not using Nearpod = ACC106 (27 students), AIS235 (67 students)

Excellent = 75–100, Good = 60–74, Pass = 50–59, Failed = 0–49

did not use Nearpod. Panel B, Table 19.1, exhibits lecturers who used Nearpod had higher (i.e., 95%) passing rates compared to lecturers who did not use Nearpod (i.e., 75%). This, to a certain extent, explains the differences in the use of the Nearpod application in the courses as noted in Beránek et al. (2016a, b). Although there is no significant difference to the passing rate for AIS235 course, the analysis of aggregate score (see Panel C) showed a slight improvement among students who achieved the highest grades. These findings are expected since this course involves various computer hands-on activities. As an alternative measure to the impact on student learning outcomes, this study also analyzed the grades that students scored in their final exam. Panel C, Table 19.1, presents the analysis of the final exam grades of the two courses. It can be noted that teaching using Nearpod improved the student grades compared to traditional lecture class. Only 3 percent (i.e., 1 person) of students failed, while 38 percent (i.e., 10 persons) attained the highest grade (excellent) for ACC106 course. Although there is no difference between students who failed AIS235 course, there was an improvement of students who attained excellent grades (i.e., 13 persons). In this respect, this study perceived that students have gained from interactive learning using Nearpod application.

19.4.2 Students' Reactions and Comments

Table 19.2 shows the results of responses on interactive learning using Nearpod as perceived by the students of UiTM Perlis Branch, Arau Campus. Out of 102 students, only 100 students who finished the two accounting courses (i.e., ACC106 and AIS235) for September 2018–January 2019 semester have completed the given questionnaire. It can be observed that student responses were extremely positive with regard to the interactive learning using Nearpod. Ninety-six percent (96%) of the students reported that they enjoyed learning using Nearpod at “Definitely yes” or “possibly yes.” This was consistent when eighty-four percent (84%) of the students described the use of the Nearpod as “very useful.” However, only sixty-eight percent (68%) of the students expressed that Nearpod enabled them to interact and learn with other students without attending classes. The instant feedback provided by Nearpod application scored positively at ninety percent (90%) by the students, which indirectly proved its effectiveness. This also suggested that teachers used Nearpod’s real-time assessment tools to check the understanding during instruction in order to facilitate individual perception of the material. Only seven percent (7%) of students disagreed with this statement. Moreover, eighty percent (80%) of the students agreed to the statement that the use of Nearpod as a teaching tool really helped them to become active participants in the class while eighty-eight percent (88%) of them claimed that they were able to pay more attention during lectures. Meanwhile, seventy-seven percent (77%) of the students felt that the use of Nearpod assisted them to identify problem areas that required additional attention.

This study also found that sixty-two percent (62%) of the students claimed that they were more interested in the topics they learned using Nearpod. These results

Table 19.2 Student responses to the use of Nearpod

Question	Responses (N = 102)				
	Definitely yes	Possibly yes	N	Possibly not	Definitely not
Nearpod helped me to enjoy the course	52	46	4	0	0
The main benefit of Nearpod was instant feedback	90	5	5	2	0
Nearpod helped me to be more active in the class	82	15	5	0	0
Nearpod helped me to maintain attention during class	5	90	5	2	0
Nearpod helped me to understand the area that I needed to study	40	30	20	12	0
Nearpod made me feel that lecturer would see my work during class	1	51	40	10	0
With Nearpod, I felt that my teacher would know my performance with the material	5	45	40	12	0
While using Nearpod, I felt that I was able to express myself creatively	10	74	10	8	0
	Often	Sometime	N	Rarely	Never
Nearpod helped me to interact with other students and learned with them without attending classes	70	20	7	5	0

(continued)

Table 19.2 (continued)

Question	Responses (N = 102)				
I was personally interested in the topics I learned when using Nearpod	12	50	30	10	0
I reviewed material from earlier lessons using Nearpod	4	20	50	20	8
	Too easy	Easy	N	Just right	To hard
How challenging are Nearpod activities and the questions that are asked?	0	22	7	72	1
	Very useful	Somewhat useful	N	Not useful	Not useful at all
The use of Nearpod was _____?	86	14	2	0	0

showed that students were able to develop an understanding of the Nearpod materials provided by lecturers during lectures. However, only twenty-four percent (24%) of these students reviewed all materials provided from previous lessons using Nearpod. This may be due to the poor Internet connections in some areas of their living quarters. On the other hand, this study found that only fifty percent (50%) of the students showed that they participated more and felt that lecturers would monitor their work during class. In addition, the survey indicated that (82%) of the students claimed that Nearpod helped them to express creatively in accounting subject. This might be the result of Nearpod features that allow users to draw, take pictures, and remix media. Furthermore, on the challenges posed by Nearpod learning interactive platform activities, nearly seventy-one (71%) responded as “just right.” Indeed, this suggested that students were able to develop relationships with the materials that work for them.

19.5 Conclusion

This study presented evidence that interactive classroom for accounting courses in UiTM Perlis can make the learning experience more rewarding for students in Arau campus and at the same time lead to the improvement in the learning outcomes in accounting education. Although this study was an interactive learning

program (i.e., Nearpod), the findings indicated that the effectiveness of using interactive learning can improve the learning outcomes in the Introduction to Accounting (ACC106) course, but only minor improvements in the Accounting Information System (AIS235) course can be observed. It was found that students tended to benefit from interactive learning, by significantly reducing the failure rates of more than twenty percent (20%). In this respect, this study perceived that such finding, to a certain extent, can explain the differences and impacts in the teaching and learning styles at higher education level, generally in Malaysia. We also found that accounting students enjoyed, learned more, be motivated, paid more attention during lectures, and had a better understanding of the lecture sessions. However, some of them still felt that they would have learned more without Nearpod application software. Based on these findings, this study also perceived that universities, particularly UiTM Perlis, should not limit the usefulness of interactive learning using Nearpod in their structured learning environment, especially toward the student attendance policy. Although Mohd Isa and Abdullah (2009) found that student learned independently and the attendance of accounting students at UiTM Perlis mainly received credits to sit in their final exam, our findings proved that by using Nearpod, lecturers can improve the monitoring of the students' attendance and participation. However, we believed that more extensive study is required to establish the effectiveness of interactive learning for different types of courses to achieve a greater impact. It is good if further study can be explored on the use of Nearpod interactive learning with other courses in UiTM Perlis or other UiTM campuses. This would be even better if the effectiveness of interactive learning based on the individual course is measured.

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Chapter 20

ASEAN as an Inclusive Community: Identifying and Overcoming the Challenges



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Abstract With the success stories of the establishment of ASEAN and a few episodes of failures by countries while playing their roles effectively in achieving their objectives mentioned by some, this paper aims to identify the challenges and opportunities for ASEAN to become an inclusive community in the region. The foundation of the establishment of ASEAN is quite promising in making ASEAN an inclusive community in the region. Many components and aspects of the establishment have been tackled and catered successfully, such as the agreement for economic development, political stability, mutual diplomatic approach, the establishment of an agreed legal framework and maintenance of peace in the region. The 2030 Agenda for Sustainable Development published by United Nations reflects three dimensions of sustainable development, which are the economic, social and ecological aspects with 17 sustainable development goals accompanied by 169 associated targets which are integrated and indivisible. However, some challenges remain in the region and should be put into focus and tackled effectively for the objective to be achieved successfully. This paper analyses current documents and recent events pertaining to ASEAN to conclude on the real challenges and potential future of ASEAN.

Keywords ASEAN · Sustainable · Challenges · Solutions · Community

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20.1 Introduction

The Association of Southeast Asian Nations, also known as ASEAN, was founded in August 1967 in Bangkok after signing of the ASEAN Declaration by the founding fathers, namely Malaysia, Indonesia, Philippines, Singapore and Thailand. The association was later joined by Brunei Darussalam, Vietnam, Laos, Myanmar and Cambodia. Currently, ASEAN is home to 630 million people. The establishment of ASEAN was done on the basis of mutual cooperation, respect, understanding and promotion of peace among the countries in the region. There are specific principles which the members should abide by, such as effective cooperation among the ASEAN members and rejection of the use of threat or force. Other principles include settlement of disputes or differences between countries in a peaceful manner and non-interference in the internal affairs of one another. An additional principle that underpins the establishment of this association is the rights of every state to lead its national affairs free from any external interference, subversion or coercion. This is stated in the Treaty of Amity and Cooperation in Southeast Asia (TAC) of 1976 (About ASEAN 2019). The fundamental principles point to a promising future for the members of the association. Numerous events and meetings have been organised to promote further effective discussion and decision-making among the members by adhering to the above-mentioned principles. However, some of these principles seem to contradict each other.

The establishment of the ASEAN Community was the result of the resolution agreed to by ASEAN leaders in the 9th ASEAN Summit in 2003. Next, in the 12th ASEAN Summit in January 2007, the leaders unanimously agreed to accelerate the establishment of this community by 2015. The Cebu Declaration on the Acceleration of the Establishment of an ASEAN Community by 2015 was signed as an agreement by the ASEAN leaders. At its very fundamental level, the ASEAN Community comprises three pillars: ASEAN Political-Security Community (APC), ASEAN Economic Community (AEC) and ASEAN Socio-Cultural Community (ASC), with each pillar having its own blueprint. With the combination of the Initiative for ASEAN Integration (IAI) Strategic Framework and IAI Work Plan Phase II (2009–2015), they form the Roadmap for an ASEAN Community 2009–2015. The ASEAN Political-Security Community (APSC) aims to ensure that countries in the ASEAN region live in peace with one another in an environment that is just, democratic and harmonious. The components include stable political development, shaping and sharing of norms, conflict prevention, conflict resolution, post-conflict peacebuilding and implementation of mechanisms to the success of these crucial components. This is important as the members share a common vision and objectives in constructing a peaceful and stable region (ASEAN Political 2019). This is a very good opportunity as the shared values among ASEAN leaders are indicators of a successful and inclusive community.

In understanding the establishment of the ASEAN Community, the firm foundation of the establishment, being the ASEAN Charter, must be fully and clearly

understood. The ASEAN Charter was put into effect on 15 December 2008 during the ASEAN foreign ministers meeting in Jakarta. This Charter is significant as it provides the legal status and institutional framework for ASEAN countries to operate by as it is a legal agreement between the 10 countries. Also there is a plan to be registered with the United Nations in pursuant to the Article 102, Paragraph 1 of the Charter of the United Nations. According to ASEAN, this Charter is of great importance as it signals new political commitment at the top level, a new legal framework which means a new legal personality for ASEAN, more ASEAN meetings, an improved role of ASEAN foreign ministers and the Secretary-General of ASEAN, as well as many other changes and initiatives which are necessary for the framework (Charter of the Association 2019). With the firm foundation laid down through this Charter, the establishment of the ASEAN Community is made possible and looks very promising in the near future.

Sustainable development refers to ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ which requires priority to be given to maintaining the value of renewable resources and ecosystems as a whole (Prizzia 2017). Synergising the overall objectives of ASEAN integration with those of the future SDGs would be relevant for three main reasons (Olsen et al. 2015). First, in theory, sustainable development should be pursued in a coherent manner at global, regional, national and sub-national levels, with nested objectives based on the subsidiarity principle coordinated vertically (top-down and bottom-up). Global goals such as SDGs can play a big role in galvanising support and guiding actions at lower levels, that is, at the regional level (via ASEAN), in addition to the national and local levels in each ASEAN member state. ASEAN regional integration can contribute positively to SDG implementation—both at regional and country levels—as long as it is organised properly. Second, many sustainability issues such as ecosystem management, biodiversity protection, migration, demographics and population change, climate change as well as disaster risk reduction are often determined by factors beyond national borders and could be best addressed through regional frameworks and by raising the importance of bodies like ASEAN. Third, sustainability of the AEC will depend to a large extent on the health of the region’s ecosystems, its ability to produce clean energy and the overall health of the environment.

20.2 The Need of an Inclusive Community

Before further discussion and analysis into the status quo of ASEAN, the concept of inclusive community must be understood. An inclusive community is defined as a community that feels safe, protected and comfortable in being themselves and all aspects of themselves can be safely expressed. It is a place where all members of the community can share a sense of belonging. It is also based on ideas of integration, specifically among ASEAN members. Some key aspects to successful integration

can be the indicators of an inclusive community. First, the ability of the community to contribute, free of any barrier, and where everybody feels safe and trust is present. Mistakes are also seen as acceptable and as learning opportunities. Next is the presence of a sense of belonging, feeling of acceptance, the sense of give and take among community members and recognition of the contributions made by individuals. Moreover, cultural identity remains strong and is seen as an asset to the community. Another indicator of an inclusive community is that the voice of community members is taken into account and considered seriously to forge a sense of belonging (*'What is a Welcoming and Inclusive Community?'*, 2019). After these indicators are achieved by ASEAN members, the inclusiveness of the ASEAN community as a whole would be achieved. All stakeholders in the community have to play their roles effectively in order to achieve this goal.

There are many success stories of ASEAN which can be seen in the scroll of history. It is said that the decision-making process and approach in ASEAN are better than those in the European Union. This signifies the inclusive community especially among the top leaders in the countries. It also highlights that the concept of mutual understanding between the countries is fully understood. ASEAN has been successful in preventing wars between the countries. This also includes Vietnam and Laos which later joined as countries who believe in communism. The annual conference of Asia-Pacific security forum which also involved world force countries has been hailed as a catalyst to regional economic cooperation and reducing the geopolitical tension in the region. As mentioned by an analyst of the Faculty of International Studies in Singapore, Hiro Katsumata, without the effective roles played by ASEAN, the region would still stick to a backward country like the 1960s, which is too dependent on a bilateral agreement. The controversial issues such as security aspects in the region still rise. However, security among the 10 countries is maintained. This can be observed through the mapping of Zone of Peace, Freedom and Neutrality, or also known as ZOPFAN. The main objectives of ZOPFAN are to make Southeast Asia a region of peace, freedom and neutral. In 30th ASEAN Summit, it was reported that the 10 countries bought vaccines in bulk as a mechanism and solution to address the situation of inadequacy of affordable medications in the region (Ahmad, n.d.). In addition, through cooperation, high economic growth is also produced. With the enhanced cooperation focused on services, investment and labour, ASEAN has contributed greatly to the regional harmony and prosperity (Hill and Menon 2010). These success stories are opportunities for ASEAN to become an inclusive community. These also show the potential of ASEAN as an effective platform for mutual understanding and concern between top leaders and their people in hopes of creating an inclusive community in the region.

20.3 Challenges and Solutions towards ASEAN Inclusivity

Some challenges and obstacles must be recognised and put into focus to achieve the goal of becoming an inclusive community in the region. Among the frequently mentioned issues regarding ASEAN Community is the commitment of ASEAN countries in handling issues of human rights. According to U.S. Human Rights Reports, every Southeast Asian country has its own damaged record. Some sources state that the issues of human rights are seldom of major concern and discussion among ASEAN countries except for cases in Myanmar (Ahmad, n.d.). It is said that ASEAN lacks legal frameworks in handling issues relating to refugees. The stateless refugees of Rohingya has been an international issue for many years, yet the issue has not been resolved effectively in the region. However, it is also important to note that Malaysia and Indonesia have taken several approaches including the acceptance of refugees into their own borders. Therefore, ASEAN's framework should be improved in dealing with this issue. Regardless of race, religion and nationality, human rights should be upheld in the name of justice. The acts of violence towards refugees should be recognised as criminal actions to human rights in the region. This view is consistent with the general principles of the ASEAN Human Rights Declaration and the Phnom Penh Statement on the Adoption of AHRD (ASEAN 1967). According to Al Jazeera, many human rights groups have urged ASEAN leaders to rethink their approach of repatriation of the refugees. The ASEAN report, titled Emergency Response and Assessment Team, by the Government of Myanmar has also been condemned by many groups. In the report, refugees are denied of their own identity and are labelled as Bengalis. Eva Sundari, an Indonesian legislator and a board member of the ASEAN Parliamentarians for Human Rights, said in a statement that ASEAN needs to stop turning a blind eye to Myanmar's atrocities against the refugees. Brad Adams, Director of the Asian division of Human Rights Watch, said it would be totally absurd for ASEAN to support the return of the traumatised population to the hands of the regime who have raped, robbed and killed their family members. He also said that it seems as though ASEAN is acknowledging Myanmar's military ethnic cleansing of the Rohingya people. ASEAN was urged to have an effective discussion during the recent ASEAN Bangkok summit (ASEAN must not 2019).

Other than that, the quality of distribution in economic growth among members can still be improved. This can be seen through the unequal distribution of benefits economically (Wood 2017). Therefore, more effective policies and acts should be introduced to tackle this challenge. This action is crucial in order for ASEAN to achieve the goal of becoming an inclusive community in the region. This challenge is further supported by the statement from Global Risk Insights, which highlighted that the unsustainable economic growth will be disturbed, even though it appears to be skyrocketing, due to the oppression and violation of human rights by many member states of ASEAN. The poor governance of ASEAN can be seen through the use of law to silence activists along with the reports of the misuse of power among the top leaders. This claim relates to recent charges made against prominent human

rights defender and activist blogger, Tran Thi Nga. This individual was sentenced to prison due to claims of propaganda against the state in accordance with the controversial Article 88 of the penal code. In ASEAN countries, due to failure of judicial independence in the states, there exists significant support towards illegal activities and ineffective protection of those parties who seek to conduct transparent operations, and these are some of the challenges faced by ASEAN in facing human rights issues. Therefore, it can be concluded that the repression of the media and journalists frequently goes hand in hand with unsustainable, unbalanced economic development due to dependence on raw materials and revenue from energy resources, and thus this challenge remains a significant obstacle for ASEAN to become an inclusive community (Eva, n.d.). A very strong foundation with an effective mechanism and framework should be introduced and put into force for ASEAN to effectively tackle human rights issues. This framework needs the support and commitment from every party to ensure the success of its objectives. Regional cooperation should also be enhanced to improve the quality of human rights in the region.

According to Asher and Zen (2015), ASEAN need to collectively lessen its reliance on foreign donors for funding and expertise. The specific initiatives suggested for facilitating a more productive ageing community in ASEAN are: (i) creating an ASEAN-wide social protection forum for developing more robust databases, encouraging communication and indigenous research, and rendering technical assistance to members; (ii) pursuing measures to reduce expenditure of the elderly, including well-designed discount systems for public amenities and basic needs; (iii) giving greater priority to cross-border worker agreements to improve their living conditions, and encourage totalization agreements and (iv) enhancing professionalism and systemic perspectives.

In engaging this global issue, it would be best for the region to consider the multi-diplomacy approach effectively taken by the Government of Indonesia in managing the issue of Rohingya refugees from the very beginning. This is interesting as the country has its own philosophical foundation called *Pancasila* which is in line with the objectives of ASEAN in becoming an inclusive community in tackling the issues of human rights, whereby the first paragraph of the Preamble of the 1945 Constitution of the Republic of Indonesia states 'Whereas freedom is the inalienable right of all nations, colonialism must be abolished in this world as it is not in conformity with humanity and justice', while the fourth paragraph reads '...and to participate toward the establishment of a world order based on freedom, perpetual peace and social justice...' in view of cases of violence occurring in Myanmar. Indonesia has also taken a democratic approach in dealing with the Government of Myanmar regarding this humanitarian issue, by adhering to non-interference approach in the domestic affairs of fellow member states. This is done without alienating the Government of Myanmar as an ASEAN member state even when relations with Aung San Suu Kyi soured in 2017.

Subsequently, humanitarian action was made more visible when Indonesia decided to offer humanitarian relief as part of its diplomacy with the Government of Myanmar. In early 2017, the Foreign Minister of Indonesia, Retno Marsudi invited representatives of several humanitarian communities to engage in a proper and

effective discussion on the joint effort between the Government of Indonesia and the civil society in providing aid to the Rakhine State. As a result, the meeting concluded with the establishment of Indonesia Humanitarian Alliance (IHA). Humanitarian Assistance fund has also raised USD 2 million for ‘Sustainable Community’ which focuses on the development of traditional markets, learning institutions and medical assistance for the Rakhine State. The Foreign Ministry further funded the visa application of IHA staff and made regular visits to the programme sites which signals that the alliance is essential for diplomacy approach. This was done under the leadership of President Joko Widodo (Jokowi) (Shafira, n.d.). Therefore, it can also be said that the issue of human rights in the region, which is a challenge for ASEAN in becoming an inclusive community, can be seen as an opportunity for ASEAN leaders to benefit from.

Malaysia, on the other hand, was vocal in condemning the violence done by the Government of Myanmar. Datuk Seri Najib Tun Razak, the former Prime Minister of Malaysia, told a rally in Kuala Lumpur that the silence of the world should stop and the violent acts of genocide towards the population of Rohingya must be acknowledged. A few diplomatic approaches have been taken by the Government of Malaysia to tackle this issue at the global level. The Organization of Islamic Cooperation’s emergency ministerial meeting was held in Kuala Lumpur in January 2017 to discuss the situation, and this was done at the request of the Government of Malaysia. Malaysia also followed the steps taken by Indonesia in emphasising that the issue of Rohingya Muslims is a regional concern and has called upon ASEAN to coordinate an effective humanitarian aid and investigation team to study the violent actions committed against the Rohingya refugees. This international pressure and criticism resulted in a positive outcome. At Malaysia’s request, Aung San Suu Kyi called for a special informal meeting with ASEAN Foreign Ministers and leaders in Yangon in December 2016 to discuss the international concerns over the situation.

As a result of the meeting, the Government of Myanmar agreed that regular updates on the humanitarian crisis would be provided to fellow ASEAN members and cooperation and coordination on humanitarian aid and efforts will be done. The Government of Myanmar also allowed several media members to visit the conflict sites, with one of the main sites allowed for entry being Maungdaw (Shivakoti, n.d.). The action of cooperation, mutual understanding and concern, and diplomatic approach taken by ASEAN countries signify the readiness of ASEAN in becoming an inclusive community in the region. However, some effective improvements must be undertaken to reach that promising objective.

Health has also become a major concern for ASEAN, although the association’s frameworks and market opportunities look quite promising in improving health issues in a region that hosts two of the world’s largest exporters of healthcare workers. In addition, several ASEAN countries have become a popular destination for ‘health tourism’ services, namely Malaysia, Singapore and Thailand. This situation looks promising for ASEAN members to provide benefits to the community in the region in terms of better economic sectors and healthcare industry. In terms of ASEAN

becoming a hub in grooming healthcare workers, Philippines and Indonesia send a large number of nurses and midwives to countries around the world. ASEAN countries benefit from this trade and demand because of a growing supply of well-educated professionals in these two countries and shortages of healthcare workers in richer economies. However, the trade, market and policy can still be improved in assisting ASEAN to become an inclusive community. This is due to limited foreign investment in ASEAN's healthcare industry. For instance, in Thailand, foreign investment is estimated to account for only 3% of total investment in private hospitals (Arunanondchai and Fink 2007). In overcoming this challenge, ASEAN should take a closer look at the healthcare industry and investments needed to improve its chances of becoming an inclusive community in the region as well as to reduce the cost of healthcare.

Furthermore, English language competency in Asian countries is very important in order to make conversations and communication easier. However, many Asian countries do not use English as their official language, thereby leading to lack of English language proficiency. According to Onyusheva, Thammashote and Kot (2018), in some countries, factors such as lack of experience and foreign language skills hinder them from achieving their full potential, while the issue of language barrier can lead to a bigger problem. Different degrees of experience and different skill levels have great impact on the integration process. While integration attracts foreign investors from outside the region, the lack of abovementioned required skills slows down the investment. For instance, Vietnam is one of the most attractive locations for foreign investment due to its sizeable and cheaper workforce, but its people still lack experience and the country is in deficit of skilled labour in terms of skill shortages in the labour force (particularly professional and technical qualifications) and basic capabilities in the manufacturing and service sectors (Montague 2013). As compared to Thailand, even with higher labour cost and with the availability of infrastructure and facilities for manufacturing, it has a sufficient skilled workforce in manufacturing. However, in foreign language proficiency (Mallissa and Kusuma 2017), the people of Thailand still lack foreign language skills compared to Singaporeans or Filipinos. English proficiency skills have become more important than ever. It is vital to improve this skill in order to meet the AEC market needs and to become a hub for international education among ASEAN countries (Sinhaneti and Fu, n.d.). It cannot be denied that the status of English as a global language has played a significant role in contemporary language education policies across the world (Wang and Lin 2013). It leads to proper business negotiation or strategic planning, levels up education and job opportunities, as well as provides a better platform for diplomatic discussions. Therefore, proper and professional teaching and training should be given to ASEAN English learners for better communication and discussions.

20.4 Conclusion

In a nutshell, it is important for all parties in ASEAN to play their roles effectively. This includes proper policy-making, good governance, proper commitment and coordination, as well as establishment of effective legal frameworks. Another solution to these challenges and an opportunity for ASEAN to benefit from is to organise frequent and effective discussions among ASEAN leaders through a proper medium. These discussions may lead to a wider opportunity in overcoming challenges as time progresses. Some challenges may arise as the globalisation era moves forward, and therefore it is important for ASEAN leaders to maintain mutual respect, understanding and concern regarding the region in order for ASEAN to become an inclusive community. Thus, this can eliminate all obstacles which may arise in the future. It is suggested that future research looks into solid evidence showing the effectiveness of the solutions proposed and creation of a model to overcome all those challenges.

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Chapter 21

Halal Cosmetics Adoption among Young Muslim Consumers: A Case Study in Kulim, Kedah



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Abstract Cosmetic industry has been growing rapidly over the years. New products were introduced in the market, and Malaysia is one of the countries that successfully produces Halal cosmetics. According to the Future of World Religions: Populations Growth Projections 2010–2050, it is expected that the global Muslim population would increase by 80% in 2050, compared to 2010 which is 1.5 billion. It indicates that there is an increment of demand for Halal products across the globe. The use of Muslim micro-influencers to endorse Halal cosmetics facilitates firms in attracting the young Muslim consumers as these micro-influencers are known to engage better young consumers through their social media postings. This provides great business opportunities for manufacturers to invest in Halal cosmetics. In order for a product to be certified Halal, it must undergo Halal inspection and testing of rigorous manufacturing facilities based on Malaysian standard MS2200: 2008 and Halal certification procedure manual. False information on Halal status of products in the market created doubt and anxiety among Muslim consumers to buy Halal products. This study tries to discover the factors that could influence Halal cosmetics adoption among young Muslim consumers in Kulim, Kedah. Primary data were used in this study, and 300 sets of questionnaires were distributed to respondents who live in the designated research area. The study found that product characteristics and religious beliefs were significant in Halal cosmetics adoption, whilst social influence and consumer innovative have least influence on the dependent variable.

Keywords Cosmetics · Halal cosmetics · Innovativeness · Religious beliefs · Product characteristics

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21.1 Introduction

Cosmetic industry has been rapidly growing year by year. The spark of expansion also triggers the growth of Halal cosmetic industry around the globe. Cosmetic is used for beauty purposes without affecting the body to make it look attractive and covers a wide range of products, including cleaning body parts, enhancing features and changing skin tones and colours such as makeup, perfume, toothpaste, shampoo and deodorant (Kumar et al. 2006). In Malaysia, Halal certification is issued and governed by Malaysia Islamic Development Department (JAKIM). Datuk Dr. Sirajuddin Suhaimee, Director of the Halal Hub JAKIM, said that applications by local and foreign cosmetic brands seeking Halal certification keep increasing. Halal cosmetic products are those that do not contain any human parts or materials derived from it, are being free of ingredients derived from animals that are prohibited for Muslims by Islamic law or from animals that are not slaughtered in the Halal way and being free of any genetically modified organisms (GMO) materials that have been declared as unclean (*najis*) according to Islamic practice. According to Dr. Sirajuddin, Halal certification complies with the MS2200: 2008 Consumer Good—Sect. 1: Cosmetic and Personal Care—General Guidelines, the decision of the National Fatwa Council for Islamic Affairs and other related guidelines and regulations. He added that there must also be compliance with the NPCB's Guidelines for Control of Cosmetic Products in Malaysia and Guidelines on Cosmetic Good Manufacturing Practice. Referring to the Halal Directory by Halal Industry Development Corporation (HDC), to date, 26 companies are listed under the cosmetics business category, 124 under the beauty category and 3 under the skincare category. Among the top homegrown brands in Halal cosmetics and skincare are SimplySiti, Pretty Suci, So.Lek, Nurraysa, dUCK Cosmetics and Elhaji Halal Skincare. This shows that Halal cosmetic industry keeps growing and the skeptical belief of the products will be washed away.

21.1.1 Issues on Halal Cosmetic Products

The quests to find the best beauty products seem to keep escalating nowadays. The State of the Global Islamic Economy Report 2018/19 stated that “*the halal pharmaceuticals and cosmetics sectors continue to expand as more products are produced and ingredients are increasingly halal-certified*”. It stated that Muslims' spending on cosmetics was estimated at US\$61 billion (RM255 billion) in 2017, which will increase to US\$90 billion by 2023. Department of Islamic Development Malaysia (JAKIM) stated that Halal means allowed or permissible. When a product is described as Halal, it means that it uses ingredients, contents, storing, manufacturing, packaging and distribution processes that are in accordance with the Shariah law and fatwa. Halal cosmetic products mean that they are free from animal-derived ingredients as

well as contents that might be harmful to health. The products are also safe to consume, clean and also cruelty-free. Halal cosmetic products are meant for everyone but some consumers, especially non-Muslims, are skeptical when it comes to Halal labelling. They think that the products are only meant for Muslims. Halal label is not only about religion, it is an industry standard that is relevant to all consumers. Halal certification means all ingredients used are of premium quality; they have undergone hygienic manufacturing and processing facilities and high-quality logistics. Hence, this research explores the factors that lead consumers to adopt and consume Halal cosmetic products. There are several factors such as product characteristics, social influence, consumer innovativeness and religious belief.

21.2 Literature Review

21.2.1 Halal Cosmetic Adoption

A study was conducted to evaluate the adoption of Halal cosmetics among Malaysian consumers through the implication of DOI theory. The findings indicate that awareness and understanding, perceived attributes of innovation and social influence had a significant positive impact, whereas financial cost has a significant negative impact on the adoption. Additionally, religiosity appeared to be a significant mediator as it also had a significant positive influence on awareness and understanding, perceived attributes of innovation, financial cost and social influence which directly influence the adoption. Mohezar et al. (2016) said that Promoting *Halal* goods such as *Halal* cosmetics and personal care products is considered an innovation as it introduces new procedures of producing, handling and managing products. It illustrates DOI theory as a valid model of prediction. The study also found consumer innovativeness, social influence and product characteristics to be congruent with existing study.

21.2.2 Product Characteristics

Halal Cosmetics-General Requirements (First Version) (2018) recommends Halal logo for Muslim consumers to identify whether the product is Halal. Halal logo is one of the elements of product characteristics where Muslim consumers will search for it first before they decide and make the final choice. The absence of Halal logo may influence the consumers' decision-making process difficult, because they have to identify the ingredients of the product and must conform that the products do not contain or use any prohibited items in it, including the process to manufacture it. Mohezar et al. (2016) found out that product characteristics, social influence and

consumer innovativeness influence young Muslim consumers to adopt Halal cosmetic products.

21.2.3 Social Influence

The concept of social influence is incorporated from psychological studies; it explains the changes in thoughts or emotions of an individual represented in their particular behaviour against the association with other (Pavalou and Chai 2002; Woolthuis et al. 2005). Moreover, in many developing countries, social influence and cultural values prevail to gain an access to opportunities ranging from adoption of business opportunities to products and services (Salman and Jamil 2017). It is suggested that despite the lack of positive interest in an individual towards Halal cosmetics, the connection with individuals' attitude and family or friends' expectations can shape positive behaviour. Due to the social influence, a consumer may switch purchasing behaviour from conventional cosmetics to Halal cosmetics. Hajipour et al. (2017) studied the reasons for Halal cosmetics consumption among Dubai consumers and found that the religious values are the leading cause of using Halal cosmetics instead of influence from friends and family. A few consumers may not opt Halal cosmetics as they have concerns over the Halalness of certain products as these products are mostly imported from non-Muslim countries which do not fully comply with the Halal standards (Hajipour et al. 2017). The cultural background, country of origin and religiosity can play a significant role in promoting the Halal cosmetics brand (Nasution et al. 2017).

21.2.4 Consumer Innovativeness

Consumer innovativeness can be defined as the willingness of consumers to accept new product (Tellis et al. 2009). According to Jaiyeoba and Opeda (2013), cognitive innovators may put more concentration on utilitarian products and sensory focus on aesthetic features of a product. Within the Halal industry, cognitive consumers may have little trouble to change their daily routine from non-Halal product to Halal product. This is because they are more willing to take more time, money and risks to try out different products.

21.2.5 Religious Belief

Moschis and Ong (2011) define religion as an individual's inherited utter beliefs about certain scripted religious teachings. Religion is a basic tool to determine people's

behaviour (Alam et al. 2011; Berger 1961; Mukhtar and Butt 2012; Schneider et al. 2011) and influence consumer's attitude and behaviour (Delener 1990, 1994; Mullen et al. 2000; Pettinger et al. 2004; Wilkes et al. 1986). The dynamic findings of past studies, especially on Halal cosmetics, have positively linked religiosity with attitude (Rahman et al. 2015), product quality (Hashim and Musa 2014) and country of origin (Patton 2009). Religiosity directly impacts the awareness of Halal cosmetics which means a religiously aware customer will always seek to strictly use Halal products (Nasution et al. 2017). Another study on Halal cosmetics adoption in Malaysia found that social influence, product attributes and consumer innovativeness influence the adoption process and are mediated by religiosity (Mohezar et al. 2016). However, awareness and understanding of Halal cosmetics are insufficient to ensure complete adoption. There are other elements which contribute to cosmetics adoption, such as behaviour and attitude. Ahmad et al. (2015) found that religiosity has substantial influence on individuals' behaviour as compared to knowledge pertaining to the Halal matters and there is a significant difference between consumers' behaviour on Halal foods and Halal cosmetics.

21.2.6 Theoretical Framework

The theoretical framework developed based on literature reviews is as follows (Fig. 21.1):

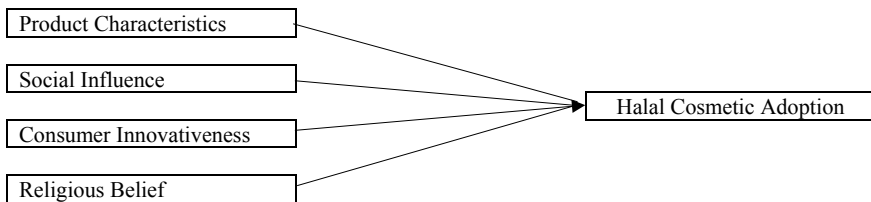


Fig. 21.1 Theoretical framework. Adapted from Mohezar et al. (2016)

21.2.7 Research Hypothesis

Based on the theoretical framework constructed, the hypotheses of the study are as follows:

Hypothesis 1 (H1) There is significant relationship between product characteristics and the adoption of Halal cosmetic products among young Muslim consumers.

Hypothesis 2 (H2) There is significant relationship between social influence and the adoption of Halal cosmetic products among young Muslim consumers.

Hypothesis 3 (H3) There is significant relationship between consumer innovativeness and the adoption of Halal cosmetic products among young Muslim consumers.

Hypothesis 4 (H4) There is significant relationship between religious belief and the adoption of Halal cosmetic products among young Muslim consumers.

21.3 Methods

This study was constructed based on primary data in which the data were collected via self-administered questionnaires. The questionnaire was divided into five (5) sections. The first section covered demographic factors, and other four (4) sections represent the variables of the study (dependent variable and independent variables). The scales used for the answer are Category Scale for obtaining personal data and Likert Scale (ranging from; 1 = “Strongly Disagree” to 5 = “Strongly Agree”) for other questions. The piloting questionnaires were piloted to a group of 30 respondents randomly to assess its reliability and validity. Then the questionnaire was reviewed and revised, before being distributed out to target respondents. A total of 350 questionnaires were randomly distributed to prospective respondents by using intercept technique that was conducted in a number of malls that are accessible in Kulim, Kedah.

21.4 Results and Discussions

21.4.1 Response Rate

Out of 350 questionnaires distributed, only 330 were returned which represented a response rate of 94.28%. Ten questionnaires were discarded as respondents answered “no” in the screening question—“have you ever purchased cosmetics?” and another 20 were also discarded because age was more than 30. Thus, only 300 questionnaires were usable in this study for further data analysis. This made the final response rate of this study equivalent to 85.71%.

21.4.1.1 Demographic Characteristics

Table 21.1 shows that the majority of the respondents were female (74.30%), and the ratio of the female participants to the male participants was 7:3. According

Table 21.1 Demographic factors

Factors	Category	Frequency	Percentage (%)
Gender	Female	213	71
	Male	87	29
Education level	SPM or less	34	11.3
	Diploma or equivalents	151	50.3
	First degree	109	36.3
	Master degree/Ph.D.	6	2
Income level	Below RM2,000	274	91.3
	RM2,001–RM4,000	13	4.3
	RM4,001–RM5,000	2	0.7
	Above RM5,000	11	3.7

to education level, 50.30% of respondents were Diploma holders or equivalents, followed by First degree holders (36.30%). The minority were Master’s degree or Ph.D. holders that accounted for 2.0%.

Meanwhile, for income level, majority income earned is below RM2,000 that accounted for 91.30% followed by those between RM2,001 and RM4,000 (4.30%), above RM5,000 (3.70%) and between RM4,001 and RM5,000 (0.70%).

21.4.1.2 Descriptive Analysis

As illustrated in Table 21.2, the highest mean score for this study is 4.31 (± 0.83), while the lowest mean score is 3.68 (± 0.10). The average score of Religious belief is 4.31 which demonstrates that respondents strongly agreed to the variable. Standard deviation 0.70 shows that the respondents were not much dispersed around their mean score. The lowest mean score of Consumer innovativeness is 3.68 (± 0.10), indicating that this variable was the least factor that influences their adoption of Halal cosmetics. Product characteristics can be considered as the second important factor that influences adoption of Halal cosmetics as the mean score is 4.13 (± 0.90)—showing that majority of the respondents agreed with this construct. Social influence placed third has mean score of 3.83 (± 0.10), indicating that respondents moderately agreed that this construct influences the adoption of Halal cosmetics.

Table 21.2 Descriptive analysis

	Mean	Std. deviation
Product characteristics	4.1300	0.90091
Social influence	3.8317	0.99728
Consumer innovativeness	3.6808	0.99875
Religious belief	4.3050	0.83499

21.4.1.3 Regression Analysis

The results of regression analysis indicated that predictors explained 71.60% of the variance. Meanwhile, remaining is explained by other factors (Table 21.3a).

The results shown in Table 21.3b indicate that the model was a significant predictor of adoption of Halal cosmetics, $F(4,295) = 185.653, p = 0.000$.

As illustrated in Table 21.3c, Product characteristics has a significant relationship on adoption of Halal cosmetics ($\beta = 0.720, p < 0.05$). Thus, Hypothesis 1 is accepted, which theorized that as Product characteristics increase by one unit, adoption of Halal cosmetics increases by 0.720 units. However, Social influence was found to have no significant relationship on adoption of Halal cosmetics ($\beta = 0.094, p > 0.05$). This finding thereupon suggests that Hypothesis 2 is rejected.

Similarly, Consumer innovativeness, in this study, does not have sufficient evidence to support Hypothesis 3 as ($\beta = -0.045, p > 0.05$), which suggests that there is no significant relationship on adoption of Halal cosmetics. Evidently, Religious belief indeed exhibits a significant relationship on adoption of Halal cosmetics ($\beta = 0.193, p < 0.05$). Thus, the last hypothesis is supported and accepted (Table 21.4).

In short, the results of this study revealed that Product characteristics and Religious belief have significant relationship on adoption of Halal cosmetics. Thus, Hypotheses 1 and 4 are accepted. Meanwhile, this study doesn't have sufficient evidences to support Hypotheses 2 and 3; hence, both hypotheses are rejected which indicates that there is no significant relationship on the dependent variable.

Table 21.3a Model summary

R	R-square	Adjusted R-square	Std. error of the estimate
0.846 ^a	0.716	0.712	0.50840

^aPredictors: (Constant), RB, CI, PC, SI

^bDependent variable: HC

Table 21.3b ANOVA^a

Model	Sum of squares	df	Mean square	F	Significant
Regression	191.946	4	47.987	185.653	0.000 ^b
Residual	76.250	295	0.258		
Total	268.197	299			

^aDependent variable: HC

^bPredictors: (Constant), RB, CI, PC, SI

Table 21.3c Regression analysis

Model	Unst. coefficients		St. Coeff	t	Sig.
	β	Std. error	Beta		
Constant	0.154	0.168		0.913	0.362
Product characteristics	0.720	0.048	0.685	15.049	0.000
Social influence	0.094	0.052	0.099	1.790	0.074
Consumer innovativeness	-0.045	0.042	-0.047	-1.075	0.283
Religious belief	0.193	0.046	0.170	4.206	0.000

Table 21.4 Summary of hypotheses results

Hypothesis	Results
Hypothesis 1	Accept
Hypothesis 2	Reject
Hypothesis 3	Reject
Hypothesis 4	Accept

21.5 Conclusion

Time has changed where Halal cosmetic and personal care products emerge as the rapid growing consumer segment in Malaysia. Halal products offer high-quality Halal makeup and are at par with natural and organic products. Even though some consumers especially non-Muslims are skeptical on Halal products at the beginning of appearance, the demand for the product seems to keep escalating due to premium ingredients, hygienic manufacturing and processing facilities and high-quality logistic that been practiced for Halal certification. It is clear from the findings that the needs of Halal traceability systems are towards distribution of the Halal cosmetic products. This system can be used to check the origin of the products and also ingredients used for the product alongside the genuine Halal logo (issued by JAKIM or equivalent) on packaging. Moreover, industry players should play important roles in increasing the awareness of Muslim consumers in adopting Halal cosmetic products. Consumers often value product attributes prior to purchase; this is to determine the products' quality, safety and health values. Thus, manufacturers need to concentrate and continuously provide added value to each product they produce. They should also be able to link the product attributes with the benefits of purchasing and consuming the products. Halal cosmetic products should not only conform with the Islamic law but also must be in harmony with ethical and animal welfare. Lastly, to have Halal certification is a must as this can assure the consumers' confidence in purchasing Halal cosmetics. This also reduces the consumers' cognitive efforts to browse for information on the ingredients in the cosmetic products that do not have Halal-certified logo in order to be assured of the Halalness of the cosmetic products.

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Chapter 22

An Analytical Study of Mosques and Public Spaces: Integration Space for Spiritual and Community Bonding



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Abstract A mosque plays a significant function as the centre of knowledge in spreading Islamic civilization and building up positive social traits of the *ummah*. Nevertheless, some mosques place a good deal of priority on architecture and interior design without considering the aspect of community space or gathering point. The design and integration of public and open spaces of the mosques are important vital elements for the spiritual development of a community. The objectives of this research are to analyse the existence of open space at selected mosques, to identify the vital elements in planning for public space and to design utility open spaces around mosques. This research progresses through site visits at four mosques. It conducts a detailed observation of space using a checklist inventory and analyses the integration space of the mosques. This research found that open space and integration of space hold special significance to the community.

Keywords Analytical · Public/open space · Integration space · Community bonding

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22.1 Introduction

Open space or landscape space is an important area for community bonding among different genders, age groups and life backgrounds. These spaces are formal dimensions for social interactions and can create opportunities towards community involvement in the social activities at the mosques. The shaping of public space at mosque where different people can easily communicate with each other offers endless possibilities for them to tolerate each other for a longer period of time. This situation can create a good *ummah* in the Islamic community. Open or public spaces are related to the outdoor areas of the mosques. They embody the physical setting (the environment and nature), activities and the meaning of place attachment (Najafi and Mustafa Kamal 2012). These open spaces around the mosques are significant and important physical elements that serve as an attraction for the congregation to prosper or to frequent the mosques (Wan Ali @ Yaacob et al. 2017). In Malaysia, public or open spaces at mosques need to provide a good environment and the required facilities to fulfil the various needs. It is also revealed that the design of the public spaces at mosques follows the concept of '*Hablum minnallah*' where the placement of the mosques, other buildings and the gardens are actually a macro cosmos union (the world, humans and the galaxy in the outer space) that manifests in a micro cosmos (mosque and gardens) environment (Joga and Antar 2007). The integration between the mosque and the open spaces creates function and adds to the aesthetics and values of the mosque for community bonding. Hence, the design and location of open or public spaces at a mosque need to consider the vital elements of the landscape as attractions. The central role of open spaces is to provide a conducive environment for the spiritual and social development of the Muslims.

22.1.1 *The Role of the Mosque as a Hub of the Islamic World*

The mosque (*masjid*) is the Islamic house of worship. The word '*masjid*' is mentioned in 26 Quranic verses consisting of 27 as the word 'mosque' whereby 15 of them mention specifically the sacred mosque in Makkah, which is Masjidil Haram (Purwanto 2010). The verses containing the word mosque are shown in Table 22.1.

Among the Quranic verses that talk about the construction of mosques as the place to solve problems faced by the people is where Allah S.W.T. decrees:

And so we made them (the unbelievers) stumble upon them, so that they might know that the promise of Allah is true and that there is no doubt about the Hour. They argued among themselves over their affair, then (the unbelievers) say: 'Build a building over them (their remains). Their Lord knows best who they were. 'But those who prevailed over the matter said; 'We will build around them a Mosque'. (QS. Al-Kahfi: 21) (Translation by Qaribullah & Darwish)

In Islam, the mosque is not merely the Muslim's place of worship but there are multiple functions of a mosque. This is what sets apart the place of worship of the

Table 22.1 The following 26 Quranic verses mention the word '*masjid*':

No.	Chapter and verse	Phrase	Function
1	Al-Baqarah:114	Allah's mosques	The role of Muslims to defend the mosque as their place of worship
2	Al-Baqarah:144	Masjidil Haram	Prayer direction
3	Al-Baqarah:149	Masjidil Haram	The only prayer direction
4	Al-Baqarah:150	Masjidil Haram	The only prayer direction
5	Al-Baqarah:187	Mosque	A place to live as an ascetic
6	Al-Baqarah:191	Masjidil Haram	A place to battle in defense of Islam
7	Al-Baqarah:196	Masjidil Haram	A place for the Hajj and Umrah religious rituals
8	Al-Baqarah: 217	Masjidil Haram	A place to battle encroaching enemies
9	5:2	Masjidil Haram	A place to close ranks in kinship
10	7:29	Mosque	An administrative place to implement justice
11	7:31	Mosque	A place of ornament, eating and drinking/welfare
12	8:34	Masjidil Haram	A place of worship for all Muslims
13	9:7	Masjidil Haram	A place to manage political treaties
14	9:17	Masajid	A place for multiple activities of the faithful
15	9:19	Masjidil Haram	A place to strengthen faith
16	9:28	Masjidil Haram	For Muslims only
17	9:107	Mosque	A place where disunity is prohibited and a place of unity
18	9:108	Mosque	It is built on the basis of piety, not merely as a place of worship/standing for eternity
19	17:1	Masjidil Haram and Masjidil Aqsa	The mosque as a sign of Allah's powers
20	17:7	Mosque	Prohibition to enter the mosque if it is to bring harm to others
21	18:21	Mosque	A place to solve people's problems
22	22:25	Masjidil Haram	You cannot prevent a person from going to the mosque
23	22:40	Mosque	A place of worship for Muslims

(continued)

Table 22.1 (continued)

No.	Chapter and verse	Phrase	Function
24	48:25	Masjidil Haram	A place where Muslims worship
25	48:27	Masjidil Haram	A place where Muslims worship
26	72:18	Allah's Mosque	A place to preach

Muslims from that of the non-Muslims. The construction of the mosque is not limited to only one form. In fact, one can find mosques in various architectural forms in accordance with the local culture and community's creativity. There are six typologies and aesthetics of mosques all around the world. They are Arabic, Iranian, Turkish, Indian, Chinese and South East Asian. The mosque's early form was a cubic building made of mud with two roofs facing each other (Mohd. Tajuddin Mohd. Rasdi 2016, p. 72). In Malaysia, there are seven identifiable mosque forms, namely traditional vernacular, Sino-eclectic, classic colonial, North Indian, modern vernacular, expressionism modernistic and revivalism, and postmodern (Mohd. Tajuddin Mohd. Rasdi 2016, p. 73). In Rasulullah S.A.W.'s era, the mosque serves various functions. These functions include a hub for worship and sociology, a hub for the spread of Islam, a centre for governance and administration, a hub for knowledge, and as a centre for moral and behavioural formation. The mosque acts as a hub that benefits the Muslims, where even Rasulullah S.A.W.'s abode connects to the mosque (Ab. Rahman et al. 1996, pp. 8–9). The earliest function of the mosque in Rasulullah S.A.W.'s era did not differ much from its functions during the Rashidun Caliphate. During Saidina (Lord) Uthman's rule, he added to the function of the mosque as a place to clarify the truth and provide explanations on the slanders and wild allegations hurled at Rasulullah S.A.W. Meanwhile, the mosque acts as a decision-making place to declare war on the apostates and those who refuse to pay tithe during Saidina (Lord) Abu Bakar's government (Ab. Rahman et al. 1996, p. 11).

Nowadays, the functions and roles of the mosque are not limited to merely as a place to establish prayers but there are at least 50 roles of the mosque. These roles include the mosque as a hub for Islamic development, a symbol of Islamic glory, a centre for dissemination of knowledge, a centre for Islamic civilization, a hub for thought proliferation, a holy place, a hub for the protection of the holy verses and a centre for Quranic recital and interpretation. The mosque may also act as a hub for education, a centre for problem-solving, a welfare hub, a centre for research, a centre for information, a place for marriage and as an Islamic health centre. In the community spirit, the mosque is also a place for a kindergarten and nursery, an economic centre, a hub for tithe (*zakat*) activities and various other functions of mosques in Islam (Ab. Rahman et al. 1996, pp. 12–23). The traditional mosque architecture in the Malay Peninsula exists since Islam was proselytized to the Malay Peninsula in the thirteenth century (Mursib 2016, p. 8). The indigenous mosque was borne out of the adaptation to its new habitat in South East Asia that maintains the Islamic principle of the dome form and is of timber construction. The earliest mosques did not see the need for a minaret as the locals use the beating of drums and

hollowed bamboo to call for prayer. These characteristics inadvertently immortalized the moderate features preached in Islam that is not to focus too much on aesthetics. However, by the nineteenth century, this mosque typology became extinct due to the trend shift of embracing Middle Eastern and Indian Moghul styles (Mursib 2016, p. 9). The mosque is among the main Islamic architectural building typologies besides madrassa, palaces, crypts and hospitals, where it is difficult to differentiate between the mosque and the madrassa from the early Islamic glorious era. This is because their roles and functions are similar to the hubs for the pursuit of Islamic knowledge as well as the place of worship for Muslims (Ibrahim 2017, p. 37). The roles of mosques reflect the beauty of Islam itself where the mosque is the embodiment of the unique and universal Islamic architecture. Moreover, the mosque encompasses multiple functions, mainly as a hub for a country's governance and administration, as well as a centre for unity.

22.1.2 The Significance of Green Spaces in the Mosques on the Community

Religious houses are symbols of holiness, strength and unity of a nation. For mosques, its relationship with Muslims is very dominant. Muslims use this holy place to pray, conduct passive recreational activities such as talks and motivation for self-reflection with God, study religious knowledge, conduct charity sales and so on. These spaces in the mosque are very important because they affect the emotional, physical, mental and social relationships among the congregation. Therefore, these spaces need to be user-friendly and be able to provide comfort to their users. One part or space in the rites of the hajj pilgrimage is the green space. One may find this space either inside a mosque or in a room outside the mosque. Green space is very important for a mosque and contains elements such as hard landscape, soft landscape and water features. Research shows that green spaces foster improved mental and physical health, and well-being of the users. For example, a study in Philadelphia, Pennsylvania, under the American Medical Association finds that cleaning the green space area can improve one's mental health, sociology and physical health. It suggests that green spaces provide relief to people who are bombarded by over-stimulating environments that affect their ability to pay attention. Green space increases social connection because it attracts people to spend time outdoors where they will interact more with their neighbours and develop closer relationships. This space also attracts visitors to come to mosques, especially children, as this space can be a location for them to enjoy activities with friends, thus strengthening friendship ties. Green space in the mosque creates an environment that provides close-to-nature experiences for children. Regular physical activities during youth also enhance physiological health, improve self-esteem and reduce symptoms of anxiety and depression (Barton and Bragg 2016).



Fig. 22.1 Entrance of the Raja Haji Fi Sabilillah Mosque

Masjid Bandar Diraja, Klang Selangor, is an example of a mosque that provides space for children. Furthermore, green space in mosques helps create environmental benefits by conserving energy through providing shades and cooling effects for the mosque. Articles from the Project Evergreen in Canada state that trees, shrubs and turf remove smoke, dust and other pollutants from the air. These are evident whereby one tree can remove 26 lb of carbon dioxide from the atmosphere annually, equaling 11,000 miles of car emissions. This shows the positive impacts of green on the environment and the people. One of the best mosques in Malaysia that provides ample green spaces is the Raja Haji Fi Sabilillah Mosque in Cyberjaya, Sepang, Selangor. It did not only become the first mosque in Malaysia to receive a Green Building Index (GBI) certificate with a platinum rating, but was able to attract international ranking visitors to come to see Malaysia with its architectural and green space values. According to Asia Web Direct, 2019, this mosque design includes using energy-efficient LED lights, natural air ventilation, rooftop solar panels and rainwater harvesting system to cater to cover 5000 worshippers. The images are shown in Fig. 22.1.

22.2 Precedent Studies and Methodology

This study attempts to analyse the influence of the integration of mosque layouts and outdoor spaces in a few selected districts in Selangor. Generally, urban mosques bear close functional similarities to one another, even though they are never identical (Kahera et al. 2009). Each mosque metaphorically embodies a particular sense of architectural expression and identity, and their respective characteristic. Random selection based on factors contributing to good mosque design involves three mosques in Selangor and the Federal Territory Kuala Lumpur. They are:

1. Masjid Raja Haji Fi Sabilillah, Cyberjaya,
2. Masjid As-Salam, Puchong Perdana, Taman Puchong Perdana, and
3. Masjid Saidina Abu Bakar As-Siddiq, Bangsar.

The case study analysis consists of two parts. The first part is a theoretical study of the relationship between indoor spatial characteristics and outdoor functional efficiency of mosque layouts. The second part is an analytical comparative description of the mosque's indoor and outdoor spaces within the four case studies. The architectural styles comprise several types according to layout designs. To provide comparative results, analyses are done on the main benchmarks and indicators in measuring the functional efficiency of mosque layouts using inventory checklists and photos of the mosques taken during site observations or field studies.

22.2.1 Case Study 1: Masjid Raja Haji Fi Sabilillah, Cyberjaya

The Raja Haji Fi Sabilillah Mosque or Cyberjaya Mosque is located in Sepang, Selangor, Malaysia. Construction of this mosque was on 5 April 2013 and completion on 24 February 2015. Another name for this mosque is the Green Mosque because of its surroundings comprising high-quality landscapes and environment with natural air ventilation and children's playground space. This is the first mosque to win the Green Building Index (GBI) award in Malaysia for using energy-efficient LED lights, rooftop solar panels and rainwater harvesting system to cater to over 5000 worshippers.

Based on site observation and inventory, the Raja Haji Fi Sabilillah Mosque has several elements of public space complementary to water and green features. It provides ample green spaces for users, comprising a courtyard inside the mosque, an indoor playground area and seating areas, open space outside the women's prayer hall complete with seating and water features and water cascades in the mosque compound (Figs. 22.2 and 22.3).

The findings reveal that the design of the Raja Haji Fi Sabilillah Mosque has good planning for landscaping and public spaces. The integration of indoor and outdoor spaces of the mosque is significant to cater to all user needs. The users utilize the outdoor or public space to create their activities and as a centre for social bonding.



Fig. 22.2 Water cascades and courtyard in the Masjid Raja Haji Fi Sabilillah, Cyberjaya



Fig. 22.3 View of car park provided for the congregation

These spaces are useful for various purposes that benefit the Islamic community. The main attraction of the Raja Haji Fi Sabilillah Mosque is the availability of open spaces that fulfils the needs of the congregation spiritually, physically and mentally. The open spaces reflect meticulous planning and designing of the surrounding landscape that is inimitable and secure (Figs. [22.4](#), [22.5](#) and [22.6](#)).



Fig. 22.4 Seating area outside the multipurpose hall



Fig. 22.5 Kids' playing area outside the main prayer hall



Fig. 22.6 Open space complete with seating and water features

22.2.2 Case Study 2: Masjid As-Salam, Puchong Perdana, Taman Puchong Perdana

Masjid As-Salam, Puchong Perdana, Taman Puchong Perdana, was opened on 5 January 2006 with a total construction cost of nearly RM10 million. It holds 4000 people, serves as a place for prayer and as well a centre for information and knowledge to the Puchong Perdana's residents. This is a unique mosque because it is an

integration of land and water, whereby it appears as if it is floating on water due to its location on the banks of the Puchong Perdana Lake (Figs. 22.7, 22.8 and 22.9).

Masjid As-Salam, Puchong Perdana provides a public space for the congregation with green attractive plants and gazebo (*wakaf*), walkways and shaded trees. There is a Local Bazaar at the mosque's open space every Friday. The lively bazaar attracts the surrounding communities to use the mosque's amenities. The integration of space for community bonding at Masjid As-Salam, Puchong Perdana, functions effectively and fulfils the community needs (Figs. 22.10 and 22.11).



Fig. 22.7 The mosque was built on one of the many ex-tin mines in Puchong and gives a panoramic and beautiful landscape from afar



Fig. 22.8 Multipurpose hall for memorable events such as 'Solemnization' at Masjid As-Salam, Puchong



Fig. 22.9 Clear demarcation of women and men's spaces



Fig. 22.10 Recreational areas and facilities for the congregation



Fig. 22.11 The Local Bazaar on Friday afternoons transforms the open space into a lively hub of activities during Friday prayers at Masjid As-Salam, Puchong

22.2.3 Case Study 3: Masjid Saidina Abu Bakar As-Siddiq, Bangsar

The history of the Masjid Saidina Abu Bakar As-Siddiq, Bangsar's construction began in 1976, when the people of Bangsar requested for a mosque. The government took over the project and placed it under the Third Malaysia 5-Year Plan. Planning for the construction of the mosque began in 1979, and completion was in March 1982. The Masjid Saidina Abu Bakar As-Siddiq, Bangsar *qiblat* determination was officiated by the Mufti of the Federal Territories, S.S. Datuk Sheikh Abdul Mohsein bin Haji Salleh on 24 August 1980 (Figs. 22.12 and 22.13).

At the Masjid Saidina Abu Bakar As-Siddiq, Bangsar, the main component of public space for community bonding is the academic or education centre. The mosque provides a classroom for KAFA (religious) classes and a library for the congregation and the surrounding communities. The library stocks religious as well as other



Fig. 22.12 The main entrance and recreational space of the mosque

Fig. 22.13 The library for the nearby communities



books. According to the mosque management, the local people and the congregation regularly frequent the open space and the facilities at the mosque's library.

22.3 Data Analysis and Findings

In identifying the sustainable and vital elements in the planning of open or public space around mosques, this research investigates the list of design elements in mosques, and mosque's uses and functions (indoors and outdoors). Site observation finds that three of the mosques display elements of *Mihrab* (sermon niche), Dome, *Mussolla* (prayer area) and minaret; except for Masjid Raja Haji Fi Sabilillah which has no minaret element. This research also considers the interior or exterior courtyard spaces around the mosque. The result shows that only Masjid Raja Haji Fi Sabilillah provides a courtyard as a centre space (Table 22.2).

The findings also prove that to function effectively and to attract people from all walks of life to frequent the mosques, the design and construction of a mosque to demonstrate the integration of open spaces and the surrounding areas (design elements) must be according to the current needs.

Table 22.3 shows the integration of public space for community, and spiritual bonding is only significant at Masjid Saidina Abu Bakar As-Siddiq, Bangsar. The Masjid Saidina Abu Bakar As-Siddiq, Bangsar, provides complementary facilities (food court, shops, playground, hall, hostels (*funduq*)), recreational and open spaces, and KAFA (religious school) for all ages and needs. Findings reveal that Malaysian mosques not only function as places of worship, but also as centres of knowledge and education, sites for community bonding and also as recreational centres for kids and teenagers. The integration of public space at Masjid Saidina Abu Bakar As-Siddiq, Bangsar, enables the surrounding communities to utilize the indoor and outdoor facilities of the mosque as sites to foster kinship or '*silaturahmi*'. These spaces are also places for children to play, locales for communal activities such as

Table 22.2 Checklist site study for the inventory of design elements in a Mosque

Design elements of a Mosque						
Mosque	<i>Mihrab</i>	Dome	<i>Mussolla</i>	Minaret	Interior/exterior Courtyard	Others/remarks
1. Masjid As-Salam Puchong	/	/	/	/	×	×
2. Masjid Sayidina Abu Bakar Bangsar	/	/	/	/	×	×
3. Masjid Raja Haji Fi Sabilillah Cyberjaya	/	/	/	×	/	Landmarks

religious classes, Quran recitals, ‘*istighotsah*’, ‘*haul*’ or for the exchange of vows in marriage or ‘*akad nikah*.’ The findings from the research show that the roles and applications of the integration spaces at mosques give positive impacts to the community or congregational bonding.

22.4 Conclusion

Results from inventory in Tables 22.2 and 22.3, as well as from observation, show that all three of the case study mosques exhibit clear and good spatial integration and function according to mosque layouts which promote community bonding. The overall study findings also revealed that the research objectives have been fulfilled. Besides, the study shows that in line with the current development of urban areas, the case study mosques offer adequate indoor spaces including vibrant landscapes such as a courtyard. The mosques display diverse layouts and clear accessibilities and are efficient and flexible in terms of function due to their distinct syntactical and morphological spatial structures. In addition to the main building or the main prayer hall, these mosques also incorporate multipurpose halls, banquet halls and schools (KAFA) for the surrounding communities. In other words, the designs of these mosques accommodate more than places of worship; they also act as local centres for Islamic activities. Even though some areas of the mosques may not be fully utilized, the mosque management is taking mitigated actions to ensure the functions suit the current users and are able to portray Islam as a progressive religion. These are alongside a vision of keeping the image of modern Malaysian mosques simple and pure. Irrefutably, the overall design of the mosques places great emphasis on capturing the spiritual essence of contemporary Islamic buildings.

Table 22.3 Inventory on Mosque use and functions (Indoor and outdoor)

Mosque	Management Office	Food court/Café, Bazaar/Shops	Playground	Hall/Banquet	Hostels/Quarters	Library	Recreation/multipurpose	School/Kindergarten
1. Masjid As-Salam Puchong	/	/	/	/	×	×	/	×
2. Masjid Sayidina Abu Bakar As-Siddiq Bangsar	/	/	/	/	/	/	/	/
3. Masjid Raja Haji Fi Sabillillah Cyberjaya	/	×	/	/	/	/	/	/

In essence, the planning and designing of open spaces of mosques should consider user comfort and provide facilities for the various communities frequenting them. Present-day mosque management often receives suggestions to revive the roles of mosques and their surroundings back to the era of the Prophet Muhammad SAW, where mosques were not only places of worship but also the centres for spiritual and social developments of Muslims. To function effectively and to attract people from all occupations to frequent the mosques, the design and construction of the open spaces and the surrounding areas of mosques must be according to the current needs. This is achievable by considering the vital elements of the landscape as the main attractions.

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Chapter 23

ASEAN Enabling Masterplan 2025: Mainstreaming the Rights of Persons with Disabilities: Lessons for Malaysia



Ikmal Hisham Md Tah and Muhamad Nadhir Abdul Nasir

Abstract The promotion and protection of human rights, strengthening democracy, good governance and the rule of law are the main principles of Association of South-East Asian Nations (ASEAN). It includes the protection of the rights of marginalised group, such as people with disabilities. ASEAN's policy framework towards advancing the rights of disabled people started from Bali Declaration on the Enhancement of the Role and Participation of Persons with Disabilities in 2011 and continued with the recent ASEAN Enabling Masterplan 2025: Mainstreaming the Rights of Persons with Disabilities which materialised in 2018. This is included in the 2030 Sustainable Development Goals, which aims to reduce inequalities and promote inclusion in society. At the world stage, the human rights treaty of the United Nations Convention on the Rights of Persons with Disabilities (CRPD) has strengthened the recognition of rights of this marginalised group under the law. Most of the ASEAN State Members have ratified the CRPD, including Malaysia. Therefore, it is crucial for Malaysia to take serious action in implementing the CRPD, together with Bali Declaration 2011 and ASEAN Enabling Masterplan 2025 to strengthen the legal and policy framework, and promoting and protecting the rights of PWD. This paper would address the importance of realisation of the recent Enabling Masterplan 2025 into policy and law related to persons with disabilities in Malaysia. It would benefit the protection of human rights and inclusiveness of society in dealing with various issues related to the disabled community.

Keywords ASEAN Enabling Masterplan · Persons with disabilities · Malaysia

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23.1 Introduction

On 30 November 2018, the ten member countries of the Association of South-East Asian Nations (ASEAN) adopted a medium-term regional framework which is known as the ASEAN Enabling Masterplan 2025: Mainstreaming the Rights of Persons with Disabilities. This monumental, yet ambitious regional, action plan was adopted in the 33rd ASEAN Summit in Singapore. The masterplan was then officially launched on 3 December 2018 in Thailand in conjunction with the regional dialogue organised by the ASEAN Intergovernmental Commission of Human Rights (AICHR). As of today, the masterplan has been translated into all languages of ASEAN member countries. The process of drafting, negotiating, and finalising the masterplan is a long and complicated one. However, before we discuss further the masterplan, we shall review the roles played by ASEAN and its members in promoting and protecting the rights of disabled people in the region.

One notable document relating to the rights and participation of disabled persons is the Bali Declaration on the Enhancement of the Role and Participation of the Persons with Disabilities in ASEAN Community. If we look at the archive of ASEAN, it was reported that ASEAN through ASEAN Ministerial Meeting on Social Welfare and Development, or known as AMMSWD, organised some programmes relating to persons with disabilities (ASEAN 2012). The programmes were carried out as part of the social welfare and development work programme (2003–2006). Unfortunately, no substantive information was found on the impact of those programmes at the writing of this manuscript. Hence, we referred to the well-known earliest regional instrument relating to the affairs of disabled persons, which was the Bali Declaration.

The Bali Declaration was adopted by ASEAN member countries in 2011. The Declaration contained 20 general statements that outlined the goal and actions taken by each government in the region to ensure inclusivity of disabled people on various aspects. The Declaration called all ASEAN member countries to sign and ratify the Convention on the Rights of Persons with Disabilities (CRPD). Today, all members of ASEAN have signed and ratified the convention. Besides, the Declaration also recognises and supports the establishment and roles of the ASEAN Disability Forum. This theoretically signalled potential collaboration and partnership between government and disabled people's organisations, both at national and regional settings.

The Declaration was accompanied by the Mobilisation Framework of the ASEAN Decade for Persons with Disabilities 2011–2020. The ASEAN Decade for Persons with Disabilities 2011–2020 was developed based on the following principles (ASEAN Secretaria 2013):

1. Respect in the identity and unique characteristics of the ASEAN Community, particularly for established sectoral bodies, mechanisms and protocol.
2. The realisation of disability as a cross-sectoral issue embedded within three pillars of the ASEAN Community: ASEAN Political-Security Community (APSC), ASEAN Economic Community (AEC) and ASEAN Socio-Cultural Community (ASCC).

3. Encouragement for the ASEAN Member States and ASEAN Secretariat to share the ownership of “the ASEAN Decade of Persons with Disabilities (2011–2020)” and related initiatives to fully promote rights and equal opportunity of PWDs at the national and regional levels.
4. Respect in the joint effort of multi-stakeholders, including PWDs and their families, Disabled Persons Organisations (DPOs), CSOs, and international organisations, academic institutions, business sector, and other related entities towards empowerment and quality of life development of PWDs.
5. Promotion of people-oriented mechanisms and policies and inclusion of PWDs in the policy formulation process, including recognition of the ASEAN Disability Forum (ADF) as the voice from the disability community, providing the platform of action for mainstreaming disability perspectives in the ASEAN community.

The priority areas and the target programmes in the ASEAN Decade for Persons with Disabilities 2011–2020 were designed to link with the three ASEAN community pillars: ASEAN Political-Security Community (APSC), ASEAN Economic Community (AEC) and ASEAN Socio-Cultural Community (ASCC). Unfortunately, it seemed that the ASEAN Decade for Persons with Disabilities 2011–2020 received an incredibly dull response, either from the government or the disabled people’s organisations. This was when the idea of a new regional agenda came about.

23.2 ASEAN Enabling Masterplan 2025

The development and the launching of the ASEAN Enabling Masterplan 2025: Mainstreaming the Rights of Persons with Disabilities can be considered as the revitalisation and enhancement of the previous ASEAN Decade for Persons with Disabilities. The process of developing the masterplan was championed by the AICHR with active presence from disabled people’s organisations in the region. The development of its target programmes also took into account various commitments made by ASEAN previously, other international and regional instruments such as the Convention on the Rights of Persons with Disabilities and the Incheon Strategy to “Make Right Real” for Persons with Disabilities in Asia and the Pacific.

The effort started in 2016 took 3 years before the final version of the masterplan was adopted by all ASEAN member countries. The process was rigorous with a series of meetings being held, both at national and regional levels besides other lobbying efforts and dialogues organised by AICHR. The task force which was in charge of the drafting of the masterplan met eight times, where the representatives of governments and disabled people’s organisations in the region were also present. Furthermore, few technical issues were also raised during the drafting process, such as the period of masterplan, the usage of word and the amount of key actions for each pillar.

In the introduction to the ASEAN Enabling Masterplan 2025, mainstreaming the rights of persons with disabilities (PWD) requires the promotion and protection of

human rights, fundamental freedoms, strengthening democracy, enhancing good governance and adherence to the rule of law which become key principles and purposes of ASEAN Charter. Besides the Charter, the reference to the ASEAN Human Rights Declaration (ADHR) 2012 and Phnom Penh Statement on Adoption of the ADHR has stipulated the commitment of ASEAN Member States to become signatory and ratified the CRPD. Historically, the promotion and protection of PWDs have stated several declarations, beginning with the Hanoi Declaration on the Enhancement of the Welfare and Development of ASEAN Woman and Children (2010) to supporting the education of child with disabilities, then followed by the Kuala Lumpur Declaration on a People-Oriented, People-Centred ASEAN (2015) to strengthen the rights of PWDs in ASEAN, The ASEAN Declaration on Strengthening Education for Out-of-School Children and Youth (OOCYSY), The Declaration on the Elimination of Violence Against Women and Elimination of Violence Against Children in ASEAN (2013), The ASEAN Declaration on Strengthening Social Protection (2013) which stated the importance of PWDs getting better social protection service.

The ASEAN Enabling Masterplan 2025 also indicated the importance of the advancement of rights of PWDs to the 2030 Agenda on Sustainable Development Goals (SDGs) which has now become global development programme promoted by the United Nations on the importance of sustainable development goals. The existence of The Incheon Strategy has become the main policy document that calls for promotion and protection on the rights of PWDs including improving accessibilities and promoting multi-sectoral and cross-sectoral approach. In addition, the Sendai Framework for Disaster Risk Reduction has called for disability-inclusive response to recover from disaster and build resilience for PWDs with the existence of risk of disaster. All these documents including Agenda of Sustainable Development have been considered as giving influence and shape the policy landscape in promoting and protecting the rights of PWDs in ASEAN (ASEAN Enabling Masterplan 2025, 2018).

The ASEAN Enabling Masterplan 2025, in response to the Bali Declaration on the Enhancement of the Role and Participation of Persons with Disabilities in the ASEAN Community and Mobilisation Framework of the ASEAN Decade of Persons with Disabilities (2011–2020), is based on the principles of relevance, complementary and interrelatedness as stated in the Clause 2.3 of the ASEAN Enabling Masterplan 2025. Relevance refers to the ability to put the ASEAN Enabling Masterplan 2025 to make disability rights towards realising inclusive community. Complementary requires ASEAN Community Vision 2025 to create and sustain the inclusive environment for PWDs, while interrelatedness includes coordination amongst sectoral bodies and participation of disabled organisations as key factor to the ASEAN Enabling Masterplan.

The inclusion of CRPD in the ASEAN Enabling Masterplan 2025 is crucial due to its nature as first human rights treaty specifically addressed for the rights of persons with disabilities at the global stage. It has become common human rights instruments in every ASEAN Member State, where all are signatories and ratified the CRPD (“Chapter IV Human Rights 15. CRPD” 2019). The ASEAN Enabling Masterplan 2025 itself under Clause 2.8 relies on the importance to adhere to the eight main principles of CRPD, which include respect for (1) inherent dignity, individual

autonomy including freedom to make one's own choices, and independent persons, (2) non-discriminations, (3) full and effective participation and inclusion in society, (4) respect for difference and acceptance of persons with disabilities as part of human diversity and humanity, (5) equality of opportunity, (6) accessibility, (7) equality between men and women and (8) respect for the evolving capacities of children with disabilities and respect for the rights of children with disabilities to preserve identities.

The main priority areas or key action points in the ASEAN Enabling Masterplan 2025 have been stated in Clause 3.1, where the reference been made to the Bali Declaration and Mobilisation Framework together with the CRPD. It included the recognition of the importance of inclusion of PWDs in political, legal, economic, social, cultural environment and full realisation of their rights. Instead of dividing its target programme according to themes or issues, the ASEAN Enabling Masterplan 2025 is designed as sector-based programmes linked directly to the three ASEAN community pillars: ASEAN Political-Security Community (APSC), ASEAN Economic Community (AEC) and ASEAN Socio-Cultural Community (ASCC) (Nasir and Wong 2019). Upon further analysis, the ASEAN Enabling Masterplan 2025 also addressed usual issues such as education, accessibility, awareness-raising, health-care, employment, entrepreneurship and so forth. The masterplan also outlined several optimistic and often-overlooked issues such as climate change, food security and smart city development.

Looking further into the ASEAN Enabling Masterplan 2025, the key action point is divided into three ASEAN community pillars with specific key actions points which are given in Table 23.1.

23.3 How Malaysia Can Take the Opportunity of the ASEAN Enabling Masterplan 2025

It is the responsibility of ASEAN countries, including Malaysia, to implement the masterplan into their laws, policy and action plan related to persons with disabilities. Malaysia has proper legal, policy and action plan frameworks for the PWD group that provide protection within the legal system (Tah and Mokhtar 2017). The Persons with Disabilities Act 2008 is a legal framework that governs and recognises the issues of people with disabilities in Malaysia, while National Policy and Action Plan has two stages between 2007–2012 and 2016–2022 which has become central policy to implement the rights of this marginalised group. As State Parties to the CRPD, Malaysia has its obligation to fulfil under international commitment in strengthening the rights of people with disabilities in the country (Tah and Mokhtar 2016).

Furthermore, Article 4(1)(a) and (b) of CRPD requires each State Party to take appropriate measures in legislative and administrative levels in implementing the CRPD, together with modifying the framework stipulated. Besides the frameworks,

Table 23.1 ASEAN Enabling Masterplan 2025 (summarised by author)

ASEAN community pillars	Key action points	Main agenda
<p>ASEAN political-security (APSC) blueprint 2025</p>	<ul style="list-style-type: none"> • APSC 1—Taking appropriate legislative and administrative measures to protect the rights of PWD • APSC 2—Encouraging access to information for public and private sector websites on reasonable accommodation for court services, elections, universal design polling systems • APSC 3—Establish accessible networks for legal aid professionals and organisations specialised in disability and human rights to provide legal assistance to PWD • APSC 4—Conduct training and capacity-building activities on disability and human rights • APSC 5—Raise awareness within judiciary, political bodies, election commission on rights of PWD • APSC 6—Engagement with UN committee on CRPD by ASEAN member states • APSC 7—Strengthen network between government sector and disabled people organisations (DPO) including developing pool of expert on disability rights, capacity-building activities, inclusive dialogue and partnership between DPO and government, ASEAN Foundation and other appropriate bodies within ASEAN stakeholders • APSC 8—Strengthen national and local policies to provide reasonable accommodation to children, youth, woman and elderly with disabilities • APSC 9—Cooperation with DPO and sectoral bodies on implementation of work programme of the ASEAN Plan of Action to Combat Transnational Crimes • APSC 10—Intensify effort towards drug-free ASEAN by providing accessible information to PWD • APSC 11—Protection for refugees and asylum seekers with disability • APSC 12—Harmonising between organisations related to disaster management in ASEAN • APSC 13—Develop disability-inclusive disaster plan with consultation from DPO • APSC 14—Establish network on disability emergency responses and preparedness • APSC 15—Promoting sharing of innovation, good practice and lessons on disability-inclusive disaster management plans • APSC 16—Supporting statistics and coordinate effective mechanism on disaster preparation resources • APSC 17—Encourage regular meetings with senior officials of DPO on strategic direction upholding rights of PWD • APSC 18—Facilitate capacity-building effort promoting rights of PWD within ASEAN community • APSC 19—Encourage information sharing on disability inclusion in ASEAN • APSC 20—Encourage new partnership to support ASEAN as disabled-friendly and inclusive society • APSC 21—Promote relevance units in ASEAN Secretariat in promoting rights of PWD • APSC 22—Further amplify ASEAN value as disability-inclusive society • APSC 23—Ensuring ASEAN awareness activities, gender-sensitive and accessible to include PWD • APSC 24—Include CRPD in report of their disability inclusion activities 	<p>A. Rule-based, people-oriented, people-centred community (APSC 1–7)</p> <p>B. Peaceful, secure, stable region (APSC 8–16)</p> <p>C. ASEAN centrality in a dynamic and outward-looking region (APSC 17–20)</p> <p>D. Strengthen ASEAN institutional capacity and presence (APSC 21–24)</p>

(continued)

Table 23.1 (continued)

ASEAN community pillars	Key action points	Main agenda
ASEAN economic community	<ul style="list-style-type: none"> • AEC 1—Develop and harmonising CRPD to include removal obstacle in employment and business opportunity to be disabled-inclusive • AEC 2—Enhance equal opportunity market and entrepreneurship for PWD • AEC 3—Enhance financial inclusion and accessible for PWD • AEC 4—Promote one-stop centre for PWD • AEC 5—Promote ASEAN consumer protection framework • AEC 6—Protection of intellectual property of PWD • AEC 7—Promote ratification of Marrakesh Treaty • AEC 8—Support system and enabling environment for PWD • AEC 9—Reasonable tax exemption for PWD • AEC 10—Utilisation of technology • AEC 11—Accessible transport • AEC 12—Accessible smart city • AEC 13—Inclusivity of ICT • AEC 14—Inclusive economic integration • AEC 15—Accessibility food security • AEC 16—Promote sustainable and accessible tourism development • AEC 17—Promote strong healthcare industry • AEC 18—Incentive system for woman and youth with disabilities • AEC 19—Promoting CSR for disability-inclusive • AEC 20—Promote MSME productivity to be disability-inclusive • AEC 21—Support for PWD to start business • AEC 22—Encourage entrepreneurship • AEC 23—Support for issues impact entrepreneur with disability • AEC 24—Creation of inclusive business opportunities • AEC 25—Inclusive and non-discrimination for economic integration 	<p>A. Highly integrated and cohesive economy (AEC 1–4)</p> <p>B. A competitive, innovative and dynamic ASEAN (AEC 5–10)</p> <p>C. Enhanced connectivity and sectoral cooperation (AEC 11–18)</p> <p>D. A resilient, inclusive, people-oriented and people-centred ASEAN (AEC 19–24)</p> <p>E. A global ASEAN (AEC 25)</p>

(continued)

Table 23.1 (continued)

ASEAN community pillars	Key action points	Main agenda
ASEAN socio-cultural community (ASCC)	<ul style="list-style-type: none"> • ASCC 1—Promote full, equal and effective participation of PWD in all aspect of life in ASEAN • ASCC 2—Social protection and economic opportunities • ASCC 3—Capacity-building activities for PWD & family members • ASCC 4—Involvement of PWD in decision-making process • ASCC 5—Accessibility on website • ASCC 6—Upstream health and welfare policy for PWD • ASCC 7—Recognise community life by respecting PWD as individual • ASCC 8—Harmonising laws related to employment • ASCC 9—Equitable marketplace • ASCC 10—Wider market demands • ASCC 11—Rights of PWD as ASEAN community value • ASCC 12—Inclusive education system • ASCC 13—Rights to life with dignity for PWD • ASCC 14—Development of cultural resources • ASCC 15—Universal access to build environment • ASCC 16—Creating equitable and sustainable development • ASCC 17—Integrate universal design for PWD in planning • ASCC 18—Promote participation in climate change, GHG inventory and vulnerable assessment • ASCC 19—Climate change risk, waste management • ASCC 20—Local disaster plan and resilient framework improvement • ASCC 21—Disability-inclusive plan • ASCC 22—Good practice for disaster risk reduction • ASCC 23—PWD have access to emergency plan situation • ASCC 24—Mechanism for safety feedback • ASCC 25—Promote inclusive skill-training entrepreneurship • ASCC 26—Awareness of financial institutions and human resources • ASCC 27—One-stop centre for PWD on entrepreneurship 	<p>A. Engages and benefits the people (ASCC 1–5)</p> <p>B. Inclusive (ASCC 6–15)</p> <p>C. Sustainable (ASCC 16–19)</p> <p>D. Resilient (ASCC 20–224)</p> <p>E. Dynamic (ASCC 25–27)</p>

the CRPD under Article 33 also requires each State Party to set up focal points within the government sector, National Human Rights Institutions (NHRI) and monitoring mechanism from civil society organisations (CSO) implementing the obligation under the CRPD. The existence of Enabling Masterplan 2025 has become another substantial contribution to mainstreaming the rights of people with disabilities in the ASEAN region (Wong 2018). Below are some lessons that can be undertaken by Malaysia in implementing the Enabling Masterplan 2025 as legal and policy frameworks related to people with disabilities.

1. Develop a multi-pronged strategy to advocate the rights of PWD and its implementation

The existence of Enabling Masterplan 2025 allows the government to strategise their main priorities in mainstreaming the disability rights through building capacities and enhancing their understanding of the human rights principle and its application. Clause 4.1 Masterplan requires the Enabling Masterplan 2025 to operate within the relevant sectoral bodies according to their main priorities in mainstreaming the disability rights into specific actions, including programmes, projects and activities. These actions must be reported in relevant conferences, which allow every stakeholder to access its success. The report will be presented to the three Communities in the Joint Consultative Meetings (JCM).

The report would allow ASEAN Organisation and Bodies to create networking and involvement with civil society organisations stipulated under Clause 4.5 including public-private-people partnership (PPP) conference, social entrepreneurship and corporate social responsibility (CSR) for inclusive and sustainable development. With such involvement, the Enabling Masterplan requires monitoring and evaluation of each programme and activities which include set up targets, indicator and evaluation criteria. It includes qualitative and quantitative data collection from early mid-term (2018–2021) to (2021–2025) for evaluation of the effectiveness of the Enabling Masterplan 2025. This requires conducting impact studies on the effectiveness of each programme and activities, with the involvement of CSO related to people with disabilities.

One of the recurring messages in the ASEAN Enabling Masterplan 2025 is the emphasis on harmonisation process of local laws, policies and action plans with the regional and international instruments (Nasir and Wong 2019). The Government of Malaysia must take proactive initiatives to review and enhance all related laws, policies and action plans regarding disabled persons, particularly the Action Plan for Persons with Disabilities 2016–2022.

2. Provide mobilisation of sources for capacity building

Under Clause 6.1, the capacity building includes allowing the transfer of knowledge, experience and skills from international commitment into community level in improving the inclusion of people with disabilities. It includes enabling the equal and equitable opportunity for social and economic inclusion, including the areas of health, education, employment, civil service, technological innovation, financial inclusion, entrepreneurship, reasonable accommodation on various services, and creating an

inclusive environment for judicial and political processes, social events and leisure activities. The disability-inclusive development also includes sharing information such as publications, research and statistical data which are widely available and within the accessible form. With relevant dialogue between ASEAN members, especially three ASEAN community pillars, the inclusion would become sooner relevant in developing a more comprehensive plan in mainstreaming disability rights.

Therefore, the government must have a systematic plan and provide appropriate resources in order to realise this aspiration. Different ministries must work in tandem with each other to create a seamless environment for the fulfilment of each key action underlined in the ASEAN Enabling Masterplan 2025. The mobilisation of resources for capacity building not only limited to government, but local non-governmental organisations, especially disabled people's organisation, should do the same. This requires transformative leadership in both the public and non-governmental sectors.

3. Strategic partnership: Between government and civil society

The local disabled people's organisations should also take the opportunity to strengthen its advocacy effort in ensuring the full implementation and integration of the ASEAN Enabling Masterplan 2025. Currently, disabled people's organisations in each ASEAN member country are tasked with the promotion of the masterplan. In Malaysia, the National Council for the Blind, Malaysia (NCBM) took the initiative to conduct a project entitled "Promoting and Protecting the Rights of Persons with Disabilities in Malaysia Through ASEAN Enabling Masterplan 2025". The project began in early 2019 and to be expected to finish at the end of this year. As part of the project, NCBM conducted a series of awareness workshops on the ASEAN Enabling Masterplan 2025 in two states and one federal territory: Sabah, Sarawak and Federal Territory of Kuala Lumpur. Besides that, the Malaysian Confederation of the Disabled (MCD) also conducted another series of awareness workshops in three other states: Pulau Pinang, Kelantan and Melaka, as part of a coherent effort by disabled people's organisations in Malaysia to promote this regional masterplan.

We firmly believe that the disabled people's organisations have a considerable responsibility to pressure the government to be accountable for the pledge made in the previous ASEAN Summit. From the key actions either under APSC, AEC or ASCC, we can observe the importance of involving disabled persons and their organisations at all stages or process of development. The ASEAN Enabling Masterplan 2025 brought us an opportunity to strengthen strategic partnership between the Government of Malaysia and the disabled community, as well as the private sector. The strategic partnership not only limited between federal government and the community but can also be expanded between state governments and local authorities.

To begin with, several initial strategic partnerships in the form of co-implementation of catalytic projects can be carried out by key stakeholders (i.e. government agencies and disabled people's organisations). For instance, both government and disabled people's organisations can collaborate in organising capacity-building activities for public servants, law reinforcement officers, emergency aid officers, business owners and the community. Private sector, in this case, can be partial funders to enable continuous implementation of such activities. Another way of forming strategic partnership between key stakeholders is through facilitation of

inclusive economic ecosystem development to achieve a number of key actions under AEC. The government can use its ‘soft’ and ‘hard’ power to establish, re-organise and match different actors to different policies and platforms to build a market which is open and inclusive for disabled employees, entrepreneurs, inventors, professionals and so forth.

23.4 Conclusion

With three lessons as stipulated above, it shows that the Enabling Masterplan 2025 has become another milestone in improving and mainstreaming the rights of people with disabilities in ASEAN, especially Malaysia. The comprehensive Enable Masterplan 2025 has shown the commitment made by regional organisation, like ASEAN, in enhancing and provided specific key action points in political, economic and social aspects with the noble intention in promoting and protecting rights of disabled community within the regions. It has been accepted that this plan shall become another substantial support document in the National Policy and Action Plan (2016–2022) to improve the rights of the disabled community. The government and all relevant stakeholders including the CSO (The National Council for the Blind Malaysia (NCBM)), should cooperate together in mainstreaming the rights of disabled into a higher stage.

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Chapter 24

A Literature Review on Housing Supply Price Elasticity for Kuala Lumpur Apartments/Condominiums



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Abstract The issue of house price dynamics had encouraged many studies on housing supply price elasticity. Past empirical studies around the world had established different sets of determinants of housing supply. However, studies on housing supply price elasticity in Malaysia are very scarce and has not thoroughly reviewed the possible determinants influencing housing supply. The aims of this paper are to review the determinants of housing supply used in the past studies and to recommend suitable determinants for Kuala Lumpur apartments/condominiums. This review highlights the coefficient size and the significant level of determinants to show their suitability for a new empirical study. This paper found that house price, financing costs, construction costs and government regulation are suitable and recommended to be used for the new empirical study. However, the government regulation determinant should be represented by a measurable proxy to ease the regression analysis. The findings provide a better understanding of the influence of each determinant to housing supply before the new study could be started.

Keywords House price dynamics · Price elasticity · Housing supply

24.1 Introduction

Housing sector is an important sector in all countries. This sector contributes to the booming economy as well as to meet the basic needs of the people. However, the house price dynamics in major cities has slowed down homeownership among people. Lately, the house price dynamics issue critically happened in two ASEAN

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countries, the Philippines and Malaysia (CEIC 2018) (see Table 24.1). The house prices in Malaysia has been rising since 2009 and recorded the highest in 2013 (Yin et al. 2017). House price in Kuala Lumpur increased at an annual average of 10.4% between 2009 and 2016. Median house price in Kuala Lumpur city in 2016 was at RM620,000, which is above the estimated maximum affordable house price of RM454,000 (Bank Negara Malaysia 2018).

The house price dynamics in major cities has caused relative inaccessibility to housing among middle-income earners, given that low-income housing needs are addressed by the government (Aziz and Hanif 2009). This situation was against the targets spelled out in Sustainable Development Goals (SDG) 11, “make cities and human settlements inclusive, safe, resilient and sustainable” while the global urban population outnumbered the rural population since 2008. The target for 2030 is to ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums (United Nations 2019).

This issue has opened many discussions towards the theory of supply and demand in determining the house prices. There were some earlier studies aimed to identify the characteristics of Malaysia house price movement and the factors affecting house prices. A study by (Yin et al. 2017) found that Malaysia housing market from 2009 to 2016 was not facing housing bubble but only a severe house price cycle because the house price in that period did not spiral up sharply for two consecutive years and fall sharply in the next two consecutive years. Meanwhile, empirical studies on house prices have identified population (Mariadas et al. 2016; Ong 2013), construction cost, housing speculation (Mariadas et al. 2016), gross domestic product (GDP) and real property gains tax (RPGT) (Ong 2013) as the factors influencing the house prices in Malaysia. These studies show the impact of demand determinants on house prices in Malaysia rather supply determinants.

Many studies around the world have evaluated the impact of supply determinants on house prices using housing supply price elasticity analysis. However, studies on housing supply price elasticity in Malaysia were very limited, and they did not thoroughly review the possible determinants influencing housing supply. Two earlier studies examined housing supply price elasticity in Malaysia; those were carried out by Mayo and Sheppard (1996) and Mayo and Malpezzi (1997). Nevertheless, the

Table 24.1 House price index of selected ASEAN countries

Country	Nominal residential property price index		
	Mar 2019	Dec 2018	2010
Indonesia	154	153.24	100
Malaysia	191.73	191.63	100
Philippines	242.89	228.06	100
Singapore	111.83	112.59	100
Thailand	138.57	136.62	100

Source CEIC

studies were limited to analysis of government regulation as a factor influencing Malaysia housing supply. Until now, there is lack of literature reviews proposed for supply determinants of major cities of Malaysia to be tested in a new empirical study. Therefore, the aims of this paper are to review the determinants of housing supply used in the past studies and to recommend suitable determinants for Kuala Lumpur apartments/condominiums.

24.2 Literature Review

24.2.1 House Price Dynamics

House price dynamics are house price movements during an economic boom and bust, which can give effect to the households and the economy at large (Granziera and Kozicki 2015). House price movement is significantly related to demand and supply of housing in the market. Large fluctuation in house price can cause problems in the housing market. When house prices increase rapidly, it creates a critical issue of housing affordability among homebuyers. The rapid increase in house price can turn to decline in the house price, which resulted in capital losses to the households (Reen and Razali 2016).

Demand determinants of housing among others include the household disposable income, shift in demographic, tax system and interest rate, while supply determinants include the availability and cost of land and the construction and investment cost. There is a significant heterogeneity in the house price dynamics across different market segments of Netherlands housing defined by geographical location, degree of urbanization and type of housing (Galati and Teppa 2017). An empirical study by Tsatsaronis and Zhu (2004) found that inflation is the main driver in house price dynamics followed by bank credit, short-term interest rate and term spread.

24.2.2 Price Dynamics of Kuala Lumpur Apartments/condominiums

Kuala Lumpur, or officially known as the Federal Territory of Kuala Lumpur, is the national capital and largest city in Malaysia. Kuala Lumpur covers an area of 243 km² with a high-density population of 1.73 million as of 2016. Kuala Lumpur is part of Greater Kuala Lumpur (or Klang Valley) which is among the fastest growing metropolitan regions in Southeast Asia, in both population and economic developments. Kuala Lumpur has a comprehensive road system supported by an extensive range of public transport networks, such as the Mass Rapid Transit (MRT), Light Rapid Transit (LRT), Bus Rapid Transit (BRT), monorail, commuter rail and an airport rail link, which encourage intercity connectivity. Kuala Lumpur has witnessed

remarkable expansion and growth of development activities, resulting in its sharp dynamic change of land use since its establishment (Asnawi et al. 2018). *Kuala Lumpur Structure Plan 2020 has shown the residential land use as the largest land use component in the city. Residential land use increased from 3822 hectares in the year 1984 to 5490 hectares in the year 2000.* However, residential land use in the city centre has declined significantly between 1984 and 2000 and now accounts only for 26.4% of the total residential land use in 1984 (City Hall Kuala Lumpur 2004). The structure plan had shaped the residential land use of Kuala Lumpur according to the highest and best use principle. Therefore, housing in Kuala Lumpur is dominated by high-rise type of apartments/condominiums with the share of apartments/condominium of total housing increased from 33 to 39% between 2007 and 2016 (NAPIC 2007, 2016a) (see Table 24.2).

Kuala Lumpur faced sharp increases in price of apartments/condominiums, besides Penang. Median price of apartments/condominiums in Kuala Lumpur increased by 88% from RM300,000 to RM565,000 between 2007 and 2016 (NAPIC 2007, 2016b). Within the same period, Kuala Lumpur has the highest price of apartments/condominiums most of the time as compared with other major states in Malaysia (see Fig. 24.1).

Kuala Lumpur also dominated the new launched apartments/condominiums in the country although share of total new launches drops from 42.6 to 29.6% between 2014 and 2016. Composition of new launches also changed with houses priced below RM300,000, which are mostly launched in 2016 as compared to previous years that mostly of houses between RM500,001 until RM1 million launched in the market. Market for Kuala Lumpur new apartments/condominiums between 2014 and 2016 has been facing the problem of property overhang and unsold due to price dynamics among new houses. Within the same period, Kuala Lumpur leads

Table 24.2 Share of apartments/condominiums to all housing in Kuala Lumpur, 2007–2016

Year	Stock of apartments/condominiums	Stock of all housing	Share of apartments/condominiums to all housing (%)
2007	119,460	366,929	33
2008	131,085	389,122	34
2009	135,273	397,412	34
2010	142,059	415,860	34
2011	142,730	414,565	34
2012	147,394	421,574	35
2013	148,455	424,324	35
2014	153,332	434,484	35
2015	158,381	447,080	35
2016	164,419	424,434	39

Source NAPIC

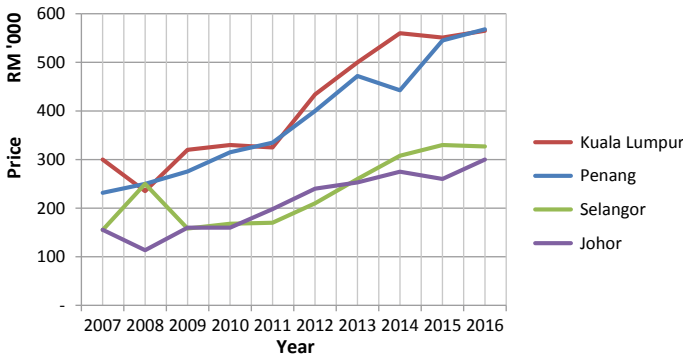


Fig. 24.1 Price of apartments/condominiums in Malaysia major states, 2007–2016. Source NAPIC

other states with property overhang recorded at 746 units in 2014 and 428 units in 2015. Kuala Lumpur also holds the highest volume of *unsold under-construction apartments/condominiums in 2014 with 4393 units and had the highest number of unsold not constructed apartments/condominiums of 2966 units and 3164 units in 2015 and 2016, respectively* (NAPIC 2016c).

24.2.3 Determinants of Housing Supply

Supply-side analysis of the housing market using price elasticity of supply is significant in explaining the house price dynamics. Price elasticity of supply is defined as the responsiveness of quantity supplied to its price in relative terms at a given period, *ceteris paribus* (Fortune et al. 2008). It measures the responsiveness of quantity supplied due to a rate change in the price of a product and services. An inelastic supply is when a percentage change in the price is larger than the percentage change of quantity supplied (elasticity coefficient is less than 1). An elastic supply is when the percentage change in price will lead to a larger percentage change in quantity supplied (elasticity coefficient is greater than 1). Hypothetically, the housing supply price elasticity of the major Malaysian cities is expected to be inelastic because of the scarcity of land, high population size and lag in construction of houses (Asroun et al. 2018). Federal Territory Kuala Lumpur should be selected as the study area of Malaysia when the house price dynamics in this state has seriously affected the affordability of the first-time homebuyers.

Earlier studies using different sets of determinants had grown substantially in the recent years. A supply elasticity model is usually established to test the correlation between housing completion (a dependent variable) and a set of determinants (independent variables). An example of supply elasticity model is shown in Eq. (24.1) (Huang et al. 2015). Note: This model is a corrected version as suggested by the study to avoid multicollinearity.

$$\begin{aligned}
 \text{New completion}_t = & \alpha + \beta_1 * CC_{t-1} + \beta_2 * HP_{t-1} + \beta_3 * Interest_{t-1} \\
 & + \beta_4 * Wage_{t-1} + \beta_5 * LP_{t-1} \\
 & + \lambda * \text{New completion}_{t-1} + \mu_t
 \end{aligned}
 \tag{24.1}$$

Earlier studies that involved Malaysia lack application of determinants. Coefficient analysis on house price, household income, population, price of building materials and price of other goods data was used to further analyse the price elasticity of supply. Results of elasticity analysis and belief that Malaysia exercises more restrictive regulation were used to prove that Malaysian housing supply was inelastic (Mayo and Sheppard 1996; Mayo and Malpezzi 1997).

24.3 Methodology

In conducting this literature review, a total of 23 academic papers comprising 20 journal articles, 2 working papers and 1 research report were selected through a multi-step filtering process with independent validation in each step. The search criteria were based on both initial and expanded through exclusion of papers with titles that were not related to the topic of study. After the search and filtering process, overlapping and duplicate papers acquired from other sources were manually sorted out. The full text papers were further checked and validated by manual cross-checking of the text analysis to select only full text papers relevant to the purposes of the paper. At the end of this stage, the selected papers were synthesized for use in this study.

24.4 Discussion

Literature review on few empirical studies had found the determinants influencing housing supply. The literature review starts with listing of set of determinants or independent variables used by the authors for data analysis (see Table 24.3).

The other part of the literature review is to identify the significant determinants influencing housing supply based on findings of the empirical studies. Effect of each determinant is measured using coefficient size and significant level as applied in the past empirical studies. The significant level of the determinants is classified into positive and statistically significant impact, negative and statistically significant impact and not statistically significant (Garces et al. 2011). Table 24.4 shows the coefficient size and the significant level of determinants that resulted from the recent past empirical studies (see Table 24.4).

The literature review shows that the recent empirical studies are dominated by major industrialized countries like the United States and China. Nevertheless, empirical studies of other countries also contribute to the current knowledge of housing supply price elasticity, i.e. Australia, Finland and Hong Kong. The literature review

Table 24.3 Set of determinants used in the past studies

Dependent variable	Set of determinants (independent variables)	Country & period	Authors
Supply elasticity	Zoning, land policy, geography, population, population growth, population density, housing price and water bodies	Finland 1987–2011	Oikarinen et al. (2015)
New completion	Construction cost, housing price, interest, wages and land price	Hong Kong 1992–2014	Huang et al. (2015)
Housing completion	Land supply, construction cost, housing price, housing construction, housing sales, housing investment and gross domestic product (GDP)	China 2004–2013	Gu et al. (2015)
Supply elasticity	Undeveloped land, minimum lot size, planning expenditures, average housing value and millage	United States 1990–2010	Ihlanfeldt and Mayock (2014)
Supply elasticity	Developable land ratio, Eastern sub-group cities, urban built-up area, growth rate of urban built-up area, population, population growth rate, population density, housing price, green ratio, growth of government revenue and violation ratio	China 1998–2009	Wang et al. (2012)
Dwelling approvals	House price, construction costs and interest rate	Australia 1983–2010	Mclaughlin (2012)

(continued)

Table 24.3 (continued)

Dependent variable	Set of determinants (independent variables)	Country & period	Authors
Number of building permits issued	Housing price, vacancy, material cost, labour cost, prime interest rate, stringency of regulation, per capita income and employment	United States 1987–1999	Hwang and Quigley (2006)
Supply elasticity	Unavailable land share (geographic constraint), coastal, land use regulations	United States 1970–2010	Saiz (2010)

also shows that 10 determinants are proven significant in the past empirical studies. Few determinants are commonly selected in the past studies and proven as highly significant at 1% level in few empirical studies that include house price, financing costs, construction costs, land availability and government regulation.

However, the results of the past empirical studies are inconclusive, either lean or against the theory. For example, government regulation can reduce the housing supply found in the studies by Ihlanfeldt and Mayock (2014), Wang et al. (2012) and Hwang and Quigley (2006), but the regulation can increase the supply was found in the studies by Oikarinen et al. (2015) and Saiz (2010). Three studies in the United States by Ihlanfeldt and Mayock (2014), Hwang and Quigley (2006) and Saiz (2010) show different effects of government regulation towards housing supply. These results may be influenced by the length of study, number of observations, selected determinants and methods of estimation. In other aspects, certain determinant has been represented by specific indices, for example, zoning, green ratio, planning expenditures and minimum lot size to ease the analysis.

The suitability of the above determinants for a housing supply price elasticity analysis of Kuala Lumpur apartments/condominiums should be based on data availability for the study. Data on house price especially prices of apartments/condominium in Kuala Lumpur can be obtained from the National Property Information Centre (NAPIC) website. Secondly, financing costs data like base lending rate and average lending rate are also available for public through Bank Negara Malaysia (BNM) website. The financing cost data represents one of the expenditures borne by developers in carrying out housing development. Thirdly, construction cost data is also possible to be gained for a new study. The construction cost data related to apartments/condominiums in Kuala Lumpur is made available by Construction Industry Development Board (CIDB) through its National Construction Cost Centre. Next, land availability data is limited in government agencies as well as land use studies. The limitation of data made land use study in Kuala Lumpur not to be more specific

Table 24.4 Housing supply determinants coefficient of selected studies

Determinants	Country & period	β coefficient	Method of data analysis	Authors
House price	China 2004–2013	0.721** (std error 0.017)	Multiple linear regression models (static and dynamic models), OLS	Gu et al. (2015)
	Australia 1983–2010	1.13*** (p-value 0.00)	Feasible generalized least squares estimators (FGLS)	Mclaughlin (2012)
Financing costs	United States 1987–1999	−0.054 (t-ratio 2.65)	Two-stage least squares (2SLS)	Hwang and Quigley (2006)
Construction costs	United States 1987–1999	Material costs − 0.00003 (t-ratio 0.10)	Two-stage least squares (2SLS)	Hwang and Quigley (2006)
	China 2004–2013	0.430*** (std error 0.003)	Multiple linear regression models (static and dynamic models), OLS	Gu et al. (2015)
Land price	Hong Kong 1992–2014	−4904.329**	OLS, Granger’s causality test	Huang et al. (2015)
Land availability	United States 1970–2000	0.560*** (std error 0.118)	Two-stage least squares (2SLS)	Saiz (2010)
	United States 1990–2010	2.46e−05*** (std error 8.93e−06)	Stock adjustment model, OLS	Ihlanfeldt and Mayoock (2014)
	China 1998–2009	16.81** (t-stats 2.09)	Stock adjustment model	Wang et al. (2012)
	China 2004–2013	−0.553*** (std error 0.003)	Multiple linear regression models (static and dynamic models), OLS	Gu et al. (2015)
	Finland 1987–2011	Geography 0.175*** (std deviation 0.051) Water bodies − 1.11* (std deviation 0.571)	Structural estimation approach, Vector Error Correction Model (VECM), OLS	Oikarinen et al. (2015)
Government regulation	United States 1970–2000	0.268*** (std error 0.068)	Two-stage least squares (2SLS)	Saiz (2010)

(continued)

Table 24.4 (continued)

Determinants	Country & period	β coefficient	Method of data analysis	Authors
	United States 1987–1999	−0.015 (t-ratio 1.63)	Two-stage least squares (2SLS)	Hwang and Quigley (2006)
	Finland 1987–2011	Zoning 0.196* (std deviation 0.095)	Structural estimation approach, Vector Error Correction Model (VECM), OLS	Oikarinen et al. (2015)
	China 1998–2009	Green ratio −30.78* (t-stats 1.90)	Stock adjustment model	Wang et al. (2012)
	United States 1990–2010	Planning expenditures −1.52e−07*** (std error 5.61e−08)	Stock adjustment model, OLS	Ihlanfeldt and Mayock (2014)
		Minimum lot size −0.876*** (std error 0.321)		
Population	Finland 1987–2011	Population −0.143*** (std deviation 0.019)	Structural estimation approach, Vector Error Correction Model (VECM), OLS	Oikarinen et al. (2015)
		Population growth 21.4* (std deviation 10.9)		
	China 1998–2009	Population growth 83.28* (t-stats 1.75)	Stock adjustment model	Wang et al. (2012)
Millage	United States 1990–2010	0.210* (t-stats 0.111)	Stock adjustment model, OLS	Ihlanfeldt and Mayock (2014)
Housing value	United States 1990–2010	−1.88e−05** (t-stats 8.06e−06)	Stock adjustment model, OLS	Ihlanfeldt and Mayock (2014)
Urban built-up area	China 1998–2009	−2.74** (t-stats −2.39)	Stock adjustment model	Wang et al. (2012)

(Asnawi et al. 2018). Then, government regulation on data is possible to be met when nowadays many authorities start improving their database and knowledge sharing as a result of effective IT-based systems. Some regulation on data could be applied for the new study that includes duration for subdivision approval, development fee, planning expenditures, zoning, green ratio and minimum lot size to show the cost and benefit of housing development to the developers. Therefore, after considering data availability of every determinants the researcher found that four determinants including house price, financing costs, construction costs and government regulation are suitable and recommended to be used in the new empirical study. The land availability determinant is rejected from the list due to data limitation factor.

24.5 Conclusion

In general, there are many significant determinants that can influence housing supply price elasticity. However, few determinants are commonly selected and proven as highly significant in the past studies that include house price, financing costs, construction costs, land availability and government regulation. The results of the past empirical studies are also inconclusive that may be influenced by the period of study, number of observations, selected determinants and methods of estimation. The researcher found that four determinants including house price, financing costs, construction costs and government regulation are suitable and recommended to be used in the new empirical study. The land availability determinant is rejected from the list due to data limitation factor.

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Chapter 25

Employees' Performance and Working Environment at a Workplace in Terengganu, Malaysia



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Abstract The aim of this paper is to study employees' performance of a private engineering company in Kemaman, Terengganu. There are several working environment factors that may affect the employees' performance in this study, which include working conditions, occupational safety and health, and office design and layout. Therefore, the main objective of this study is to identify the relationship between working environment and employees' performance of the private engineering company. There are 110 employees in this organisation, and a sample of 86 respondents has been obtained for this study. The questionnaire is divided into five sections, and the data have been analysed using the Statistical Package for Social Science (SPSS). The result of the analysis indicates a positive relationship between all the factors and the employees' performance. Thus, the working condition is the most influential working environment factor that affects the employees' performance of the private engineering company.

Keywords Occupational safety and health · Office design and layout · Working condition · Employees' performance

25.1 Introduction

It is indisputable that employees are vital and represent the only intelligent assets that contribute to the success, performance and sustainability of an organisation. Therefore, an exemplary working environment, the very spot that employees are working in or the milieus around the employees, is considered as an important place for the employees to be motivated and productive.

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Employers must invest and provide a comfortable and suitable working environment for employees to work. This is because a suitable working environment increases employees' performance and productivity level. A suitable working environment can be classified as facilities- and materials-related and human factors-related (employers-related and peer-to-peer-related).

An organisation needs to have a conducive environment for employees to perform their work effectively and efficiently. Gunaseelan and Ollukkaran (2012) have explained that a working environment has a significant impact on employees' performance and productivity. Besides, it involves the execution and profitability of the workplace itself. On the other hand, a poor environment and working condition may result in a low productivity level and job performance which will, in turn, affect the financial condition of a company (Quible 2001). A workplace environment gives an impact to employees through their morale and productivity and includes positive and negative engagements (Chandrasekar 2011).

A workplace environment is one of the most significant elements that affects the motivation level of employees and guarantees a viable execution of tasks assigned to employees. A good quality workplace environment will influence the level of employees' motivation and performance. Amir (2010) has found that when employees are provided with a better working status and enjoy their work, they can execute well, which will benefit the most to the organisation. Another study by Nanzushi (2015) has indicated that employees' performance is improved by the satisfaction of their physical work. Therefore, there is an indication that relevant facilities and tools provided may affect employees' performance.

Human factors related to a working environment are superior-subordinate relationships and peer-to-peer relationships. They are complex relationships where superiors must be able to exhibit a leadership quality whilst, at the same time, be able to work together as a team. On the other hand, there is a set of rules that must be observed among peers to maintain a harmonious working environment.

Employees always face various challenges in retaining their motivation level. This includes mobility at workplace, working hours and environment in the office. In order to achieve a high-level organisational performance, companies must create a positive working environment where their employees can give more to the organisations (Nanzushi 2015).

Meanwhile, the attitude of employees is also essential for the performance of an organisation. Attitude is a psychological awareness inside individuals which reflect through their positive actions resulting in achieving a desired performance (Offerbike et al. 2018). At workplace, employees will employ either a positive or negative attitude towards their work, peers, employer and organisation. Besides, positive attitude among employees also makes their work time pleasurable (Offerbike et al. 2018). Attitude towards work refers to reactions that employees adapt to their working condition (Susanty and Miradipta 2013). Some components that influence the attitude towards work are personality, person-environment fit, job characteristics, psychological contracts, organisational justice, work relationships and stress (Carpeter et al. 2009).

Previous studies have supported that a positive attitude towards work is related to employees' performance as it can be a motivation for them to perform in their career

(Judge et al. 2001; Wei and Chu 2008; Riketta 2009; Velnamby 2007). Pushpakumari (2008) has stated that an employee's effort is an element to job accomplishment. Exertion is an internal control that makes employees work enthusiastically and perform better at workplace (Pushpakumari 2008).

25.1.1 Employees' Performance

The number of complaints and absenteeism among employees may be reduced, and the productivity of work may increase if an organisation improves its working environment (Roelofsen 2002). A research by Kuusela et al. (1997) has found that there is a positive relationship between productivity and working environment, and an increase in productivity has a positive impact on a working environment. Besides, they have also found that when safety in an organisation improves, the volume of production and quality also increases. Thus, it is evident that a quality working environment contributes to the greatest impact on the productivity of an organisation (Haynes 2008), and the relationship between the tools of work and workplace becomes an integral part of work (Chandrasekar 2011).

According to Eluka and Okafor (2014), employees are willing to commute to distant places to find decent facilities; however, most of them develop stress over time due to loss of time and energy. The commitment and intention of employees to stay with an organisation are of the effects of adequate equipment and working conditions (Weiss 1999). Therefore, a working environment can affect employees' performance and their ability to be productive (Kopelman et al. 1990; Fawcett et al. 2008). However, Bakotić (2016) found a positive relationship between job satisfaction and organisational performance, and there were positive associations between the demographic variables and employees' performance (Pradhan and Jena 2016).

25.1.2 Occupational Safety and Health

Occupational Safety and Health (OSH) has become a focal issue in many organisations globally since the 1990s (Grabowski et al. 2007). During that time, the issues focused more on preventive strategies to avoid workplace accidents. Organisations' efforts to preserve and protect employees and assets involving the monitoring and advising of the employees on the mechanism to prevent and minimise organisational losses have also been part of the focus (Friend and Kohn 2018). Occupational safety and health are related to the maintenance of work environment, promotion, physical, emotional and well-being of employees that are free from potential hazards that might physically hurt employees (Nyirenda et al. 2015). However, accident analysis can be categorised by causal model of accidents, economic cost of accidents and statistical analysis of accidents (Sanchez et al. 2017).

Similarly, OSH issues experienced a positive development in Malaysia in the 1990s. This development was evident with the enactment of Occupational Safety

and Health Act (OSHA) in 1994, carrying the philosophy of legislating safety and health at workplace supported by regulations, codes of practices and guidelines to further clarify the provisions in the Act (Rampal and Nizam 2006). The OSHA 1994 Act has authorised the Minister of Human Resources to make regulations to prescribe the standards in relation to the use of and the standards of exposure to physical, biological, chemical or psychological hazards (Rampal and Nizam 2006). However, the responsibility in ensuring safety and health of Malaysian workforce has not rested solely on the ministry but has been distributed among other governmental agencies, particularly those involved in enforcing legislations related to safety and health.

The development of OSHA issues has created awareness of the important role OSH has played in the prevention of occupational injuries and diseases. In relation to this, various programmes have been implemented by different agencies to increase the awareness and knowledge of OSH at workplace since the enactment of the 1994 Occupational Safety and Health Act (OSHA) (Rampal and Nizam 2006).

Previous research has also found that occupational safety and health issues have a significant relation with employees' job satisfaction. Management concerns for employees' well-being will result in positive outcomes on employees (Michael et al. 2005) and influence employees' performance. The result is also supported by the finding of a study conducted by Haslam et al. (2016), which has indicated that there is a correlation between the good practices of OSH management and job satisfaction, and the latter significantly influences employees' performance.

25.1.3 Office Design and Layout

Organisations usually provide space for employees to perform their work, and the workspace allocated for them affects their performance and well-being (Zerella et al. 2017). A workspace design layout can be either private or shared, or open-plan layout, depending on the number of space occupancies, physical features (Hongisto et al. 2016) and the way objects within it are arranged (Lee 2010).

Samani (2015) has referred office layout as the arrangement, design and type of boundaries within an office. Office layout plays a significant role because it affects employees' information channels, interpersonal interactions and the availability of knowledge and equipment. Open office is described as having fewer physical barriers and internal walls where employees are arranged in a closer distance with each other (Zerella et al. 2017). In the meantime, office layout influences the behaviour of office occupants (Al Horr et al. 2016) because there is evidence supporting that distraction is a component that has the most negative impact on perceived productivity while interaction has the most positive effect on it. This has been supported by Al Horr et al. (2016) in their study which has revealed that office layout is significant for achieving productivity in an office environment (Al Horr et al. 2016). The satisfaction on office environment may contribute to the productivity of employees and organisation,

and it was found that there is a relationship between office design and employees' productivity (Hansika and Amarathunga 2016).

Office layout is a crucial factor as it is proven that a layout design, which complements the work process of an organisation, can help the workflow to efficiently stream through the office, which may reduce time and improve productivity. In addition, a good office design reduces tension between organisational working processes and an office environment (Al Horr et al. 2016). Not only that, a physical office environment has also been found to be associated with the indicators of both health and performance (Seddigh et al. 2015).

Office design and layout create an office environment that influences employees' satisfaction and productivity (Dole and Schroeder 2001a, b). This finding has been supported by Al Horr et al. (2016) who have stated that office layout is one of the physical factors that affects employees' satisfaction and productivity. Thus, research done by Raziq and Maulabakhsha (2015) also indicated that there is a positive relationship between job satisfaction and working environment of employees working in the banking, university and telecommunication sectors. Furthermore, employees who are satisfied with the physical environment produce better work productivity (Dole and Schroeder 2001a, b). Thus, majority of employees believe that office design contributes to superior overall performance and organisational competitiveness (El-Zeiny 2012). He further stated in his research that overall productivity will increase if office design problems are solved.

25.1.4 Working Condition

Some studies have acknowledged working condition as a physical working condition. Previous studies have revealed that there are three factors that lead to a physical working condition, namely working-environmental exposures, physical workloads and working with computers and mouses (Pirainen et al. 2003). According to Irimie et al. (2015), working environment is related to temperature, security, equipment, salary, decency, music, drinks, conversation language, nice staff, contented, shift work, understanding boss, hygiene and privacy. Regardless of personal shortcomings, employees with specific criteria, such as age, sex, capabilities, well-being, physical and mental conditions, and psycho-physiological and mental abilities, are known to be able to cope with difficult working conditions (Black and Steers 1994). Meanwhile, difficult working conditions can be classified into three factors, namely atmospheres, subjective variables and association of creation (Gahan et al. 2014).

Therefore, it is important to have a healthy working condition as one of the crucial factors that leads to employees' performance in an organisation. Previous studies have discovered that the improvement in a working condition positively impacts employees' performance (Eluka and Okafor 2014; Chandrasekar 2011). When an organisation improves its convenient access to job-related facilities, it helps its employees to remain working, reduce absenteeism and turnover, decrease work injuries and avoid stress disorders among employees (Eluka and Okafor 2014). Meanwhile, a

study by Temessek (2009) has supported that a healthy working condition influences employees' commitment and turnover in an organisation. In addition, a better working condition may lower complaints and absenteeism among employees and, at the same time, increase their performance (Roelofsen 2002). Working environment also influences employees' attitudes, satisfaction and working performance. With a comfortable working environment, employees are not only able to focus on their job but also ensure that their performance and quality of life at work is better (Kamarulzaman et al. 2011). Furthermore, if the employees are comfortable with the working environment, they will be happy and their work will meet the expectations (Irimie et al. 2015).

25.2 Research Methodology

This is a quantitative research focusing on the employees in one of the private engineering companies in Kerteh, district of Kemaman, Terengganu, one of the east coast states in the Peninsula of Malaysia. The study involves 86 respondents from a total of 110 employees in the organisation. The respondents have been required to answer a set of questionnaires which have been adopted from previous research and distributed to the relevant respondents face to face. This research has used the five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). The questionnaires given to the respondents consist of five parts, which include demographic profile, employees' performance and working environment (occupational safety and health, office layout and design, and working condition). All the data collected have been analysed using the Statistical Package for Social Science (SPSS), and Pearson's correlation coefficient analysis has been done to examine the correlations between the variables.

25.3 Findings and Discussion

The survey instrument for this study has been adapted from a previous study that has included three independent variables and one dependent variable. Each variable has seven items to be tested. A pilot study had been conducted before the actual study. Table 25.1 shows the reliability results of both the pilot and actual studies. As a result, every variable used in this study is reliable and exceeds 0.70.

This research has been conducted to identify the relationship between employees' performance and working environment (occupational safety and health, office layout and design, and working condition). According to the research, most of the respondents' ages range from 21 to 30 years (53.5%), 31–40 years (43.0%) and 41–50 years (3.5%). It has also been found that 23.3% of the respondents have a less-than-a-year working experience, 51.2% have 1–4 years of working experience and 25.6% have 5–7 years of experience in this organisation.

Table 25.1 Reliability analysis

	Pilot study	Cronbach's alpha	Number of items
Occupational health and safety	0.815	0.833	7
Office layout and design	0.788	0.836	7
Working condition	0.853	0.877	7
Employees' performance	0.863	0.894	7

Research shows that the highest mean score for the occupational safety and health question is “*The working environment does not affect my health*” with the score of 4.62. Another highest mean score is for “*My office is open enough to see my colleagues working*” with the score of 4.59. The highest mean score is for employees' performance with the score of 4.76 for the question “*Overall, I like working in this company*”.

Table 25.2 explains the relationship between employees' performance and office design and layout. The result obtained using Pearson's Correlation coefficient shows that there is a positive, strong relationship between office design and layout and employees' performance, which is ($r = 0.631^{**}$, $p < 0.05$).

The table further demonstrates that there is a positive, moderate relationship between occupational safety and health and employees' performance, which is ($r = 0.448^*$, $p < 0.05$). The result of Pearson's correlation on working condition and employees' performance shows that there is a positive, strong relationship between working condition and employees' performance, which is ($r = 0.641^{**}$, $p < 0.05$). As a result, working condition can be considered the most influential factor that affects employees' performance in this study.

Table 25.2 Pearson's correlation analysis

Variable	Correlation	
	r	Sig. (2-tailed)
Office design and layout	0.631**	0.000
Occupational health and safety	0.448*	0.000
Working condition	0.641**	0.000

Note *Correlation is significant at the 0.01 level (2-tailed)

25.4 Conclusion

To conclude, working environment is deemed very important in any organisation as it may influence the performance and credibility of their employees. The findings of this research indicate that there is a strong relationship between working condition and office design and layout towards employees' performance in an organisation. This is in line with what has been explained by Hameed and Amjad (2009) and Haynes (2008) about an office design as an important factor in job satisfaction as it contributes to the increase in employees' performance. Meanwhile, Ali et al. (2013) have also suggested that a working condition created from physical interactions within an organisational climate causes psychological effects. This may be due to the fact that most employees spend their precious time in an indoor environment. Without doubt, it is a reality that most employees spend about fifty percent of their lives living in the indoor environment, which greatly influences their mental statuses, actions, abilities and performances (Sundstrom et al. 1994).

A conducive working environment is a place where employees can contribute to the success of an organisation. A combination of facilities, material factors and human factors boost employees' morale, instill positive attitude, motivate them and reduce absenteeism. Therefore, it may alleviate their performance and the productivity of their organisation.

In the meantime, the Occupational Safety and Health Act (OSHA), established in 1994, has created awareness on the importance of occupational safety and health. It is meant to protect employees and organisational assets and ensure a safe and healthy working environment in order to prevent injuries due to occupational accidents. In addition, a management team that is concerned about the well-being of employees will result in an increase in employees' job satisfaction and consequently influence employees' performance.

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Chapter 26

Manufacturing SMEs Sustainable Practices: Operationalization of Sustainable Value Framework



Peter Yacob, Suresh Nodeson, Chew Fong Yee, and Mei Ling Sai

Abstract Traditionally, companies and the environment have continuously become two conflicting aspects, where business becomes an environmental risk and environmental concern becomes threats to business expansion. In view of the fact that sustainability research on green practices is still in its infancy in Malaysia, the aim of this study is to provide a stronger, more integrative, systematic and thorough knowledge of the environmental advantages as well as the operationalization of sustainable green practices among manufacturing SMEs. This study used an exploratory case study approach based on semi-structured expert interviews with five manufacturing SMEs owners/managers in Malaysia. The findings reveal that manufacturing SMEs are challenged to strike a balance between the components of sustainable value framework (SVF) and status quo concerning firm's current sustainable practices. In addition, creating a long-term sustainable value from the implementation of sustainable practices challenges manufacturing SMEs to successfully operationalize considerations relative to the four quadrants of the SVF. This study is expected to help both researchers and practitioners in manufacturing and other industries who are serious towards environmental sustainable practices implementation and are looking for an appropriate mechanism to implement. It offers a generalized environmental sustainability implementation linking manufacturing SMEs owners/managers, green practices, green technology policy and supply chain management.

Keywords Sustainable value framework · Manufacturing SME · Sustainable practices

26.1 Introduction

Malaysia is one of the developing countries whose economy mainly depends on the small–medium enterprises (SMEs) sector (Ho et al. 2016; Jomo 2019). In recent years, sustainable practices are among the vital management issues encountered by SMEs, specifically in the manufacturing sector, due to the growing awareness

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about environmental issues among primary and secondary stakeholders, such as owners/managers, employees, consumers, governments and social groups. Broadly, environmental sustainability and their outcomes have been addressed from various perspectives, ranging from the application of green technologies as a means to gain competitive advantage (Leonidou et al. 2013) to the perception of environmental regulation as a driver for innovation (Ball et al. 2018) and improvement of the competitive position (Porter and Van der Linde 1995; Mkrttchian et al. 2019). In support, some studies on the development of green issues over time focused on specific industrial sectors (Aldrich and Wiedenmayer 2019) or multi-sectorial large companies (Dahlmann and Brammer 2011), addressing the advancement of environmental proactivity. Despite this, attention has been devoted to large firms and disregarding the development in manufacturing SMEs, which, after all, constitute the backbone of many economies. On account of this, the impact of manufacturing SMEs on the natural environment remains significant, and therefore there is a gap that needs to be filled up to overcome the environmental issues. Therefore, the sustainable practices of manufacturing SMEs in Malaysia warrant investigation as this sector is predicted to have a collective impact on the environment and could outweigh the combined environmental impact of large companies (Yacob et al. 2019).

By definition, there are very limited operations of SMEs individually, which have minimum impact on the environment as compared to large businesses (Gadenne et al. 2009). On the contrary, there has been an increasing concern in relation to the impact of manufacturing SMEs on the environment, and numerous reasons are highlighted on why manufacturing SMEs cause many environmental problems (Hillary 2000; Yacob et al. 2019). Despite this, Crespi et al. (2018) stated that manufacturing SMEs are facing scarcity in resources, knowledge, technical capabilities and natural resource inefficiencies in dealing with environmental pollution and ecological modernization due to their smaller capacities. Another essential point is that the small-scale and spread in geographical location of manufacturing SMEs has led to the shortening of regulation control and enforcement by the state authorities. Additionally, it is noted that environmental NGOs or concerned citizens have power to pressurize larger industrial polluters on ecological transformation, but not manufacturing SMEs.

Even so, there is a general agreement that precise data concerning environmental impact by manufacturing SMEs are very limited (Parker et al. 2009). However, there is still considerable pressure on manufacturing SMEs that they are the immense polluters, and there are undeniably significant impacts on ecological systems due to infinite number of manufacturing SMEs and their spread in terms of geographical location. On the other hand, studies on environmental sustainability of manufacturing SMEs are still at an infancy level, although there has been vast literature in relation to how and to what extent the production processes and products in manufacturing industries of developed countries are being re-oriented to include sustainability requirements and conditions. Pertaining to the aforementioned statement, it can be concluded that manufacturing SMEs may not understand fully the environmental impact that they may face (Chowdhury et al. 2019), and to date, there has been very limited study on the current understanding of trends surrounding environmental

sustainability practices and performance (Battisti and Perry 2011). Therefore, this paper aims to explore the two main issues related to these questions. First, how manufacturing SMEs are able to create stakeholder value by implementing sustainable practices in their operations, and second, what potential hazards of going green must manufacturing SMEs take into account when pursuing sustainable practices undertakings?

26.1.1 Sustainable Value Framework

This paper proposes sustainable value framework (SVF) presented by Hart (1997) which is a generic framework through which firms are able to convert their sustainable undertakings into sustainable value. SVF offers the basic considerations that businesses must take into account to successfully implement sustainable practices and create sustainable value over time. Although the SVF was developed for firms looking to serve the four billion poorest people who are at the bottom of the economic pyramid (Si et al. 2019), this paper extends this knowledge by identifying the generic considerations which are applicable to manufacturing SMEs in general and in the process of successfully creating sustainable value. By the same token, manufacturing SMEs are challenged to translate the generic considerations of SVF into firm-specific actions in order to be sustainable and successful. The SVF presents short-term and long-term considerations of organizational planning when it comes to booking short-term results in light of future growth. Placed alongside, these two dimensions produce a matrix with four distinct dimensions of firm performance crucial to generating shareholder value and understanding sustainability in terms relevant to the business (Hart 1997). The elements of this framework include an analysis of the underlying processes which determine firm performance internally (directly) and considerations related to the key stakeholders which influence firm performance externally (indirectly). A graphical representation of the dimensions of (Hart 1997) SVF is presented in Fig. 26.1, followed by the elaboration of each axis.

26.1.2 Initial Considerations

The vertical axis (Today/Tomorrow) regards striking a balance between adapting the firm's current practices in the short term whilst developing competencies to solve social and environmental problems in the future. Firms need to manage today's business whilst simultaneously creating tomorrow's technology and markets. This dimension captures the tension created by the need to realize short-term results whilst simultaneously fulfilling the expectations for future growth (Hart 1997). On the other hand, the horizontal axis (Internal/External) entails properly integrating stakeholders views through the products' entire life cycle and communicating these undertakings effectively (product stewardship) whilst creating a shared roadmap for meeting unmet

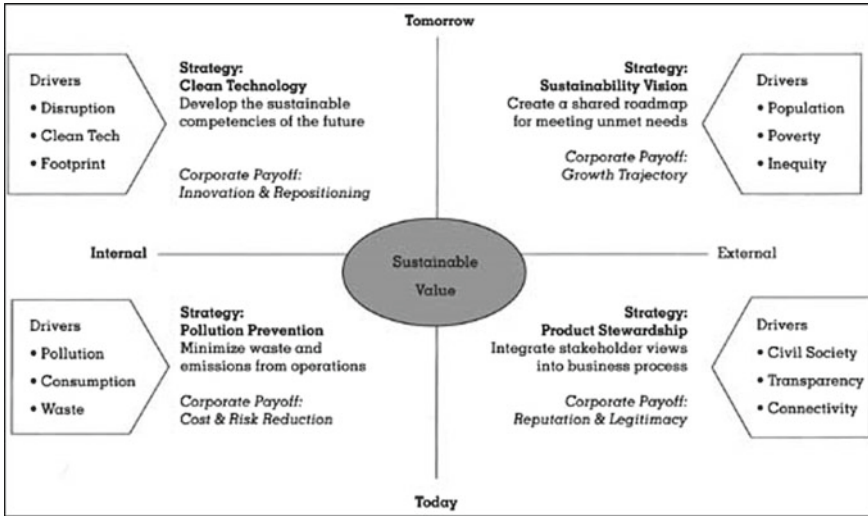


Fig. 26.1 Sustainable value framework (adapted from Hart 1997)

needs and developing new markets on the long run (crystallizing growth). Indeed, this dimension reflects the tension created by the need to buffer the technical core so that it can operate without distraction whilst at the same time remaining open to fresh perspectives and new disruptive models and technologies (Hart 1997). Each of the four dimensions or quadrants of the SVF is discussed in detail in the next sub-sections.

26.1.2.1 Quadrant 1—Internal/Short-Term: Pollution Prevention

Preventing pollution by process or product redesign can save the firm’s valuable financial resources, lower on-the-job risk and improve firm’s overall performance (Hart 1997). Thus, the focus of Quadrant 1 is on developing practices that lower pollution, consumption and waste from current operations. Comparatively, this end can be achieved by means of implementing environmental best practices.

26.1.2.2 Quadrant 2—Internal/Long-Term: Clean Technology

Today, the goal of Quadrant 2 is on acquiring and/or developing proper competencies that facilitate the firm’s adoption of clean technologies in the long run. Clean technologies include renewable energy (wind power, solar power, hydropower and biofuels), information technology, green transportation, electric motors, green chemistry, lighting and many other appliances that are now more energy-efficient. It is a means to create electricity and fuels with a smaller environmental footprint. Clean

technologies go beyond the incremental improvements associated with pollution prevention and end-of-the-pipe approaches which only enable a firm to do ‘less bad’ as opposed to ‘more good’. Harvesting the competencies necessary to adopt sustainable technologies is a long-term process which challenges firms to reconsider the distribution of their internal resources in order to reposition their internal competencies around more sustainable technologies (Hart 1997).

26.1.2.3 Quadrant 3—External/Short-Term: Product Stewardship

Once the internal balance has been achieved, only then the firms are able to communicate their sustainable undertakings to the external audience. The focus in Quadrant 3 is on building legitimacy and reputation by engaging key external constituents throughout the products’ entire life cycle. Product stewardship integrates the voice of the stakeholder into business processes by allowing the firm to interact with external parties across the firm’s value chain (Hart 1997). In doing so, firms were able to reap the benefits of more efficient operations across the value chain whilst increasing perceptions of legitimacy and overall loyalty from stakeholders. The perspectives of these constituents can mean the difference between failure and success in a firm’s undertakings. Therefore, it is important for firms to carefully consider the communication of sustainable practices undertakings to stakeholders.

26.1.2.4 Quadrant 4—External/Long-Term: Sustainability Vision

Having established pollution prevention measures in operations by harvesting the complementary resources necessary to adopt clean technologies, firms were granted with the ability to communicate their sustainable undertakings to external stakeholders confidently. Under this circumstance, firms must avoid potential pitfalls of erroneous implementation as sustainable practices are a prerequisite of achieving long-term success. Therefore, this quadrant can only be considered if answers to the questions relative to the other three quadrants have been stated. Reaping long-term benefits from this development challenges the firms to identify the needs that will define the growth markets of the future. In order to grow successfully, a firm can either offer new products to existing customers or venture into previously untapped markets (Hart 1997). Incremental improvements to production systems and processes only slow the rate of environmental damage, and they enable a firm to do less bad. However, capitalizing on the opportunities of tomorrow’s markets and establishing a firm’s sustainable growth trajectory challenge a firm to set a corporate vision, with a focus on coherence between a firm’s financial aspirations, social influence and environmental impact, and they need to do more good. Therefore, to succeed, it is crucial to develop a vision not only for what needs the company is trying to address and how they relate to sustainability, but also where the most appropriate markets can be found (Hart 1997).

26.1.3 Practical Implications of the SVF

Firms are challenged to strike a balance between the components of the SVF, or risk succumbing to the woes of erroneously carrying out sustainable practices. For example, a strong focus on reaping the short-term benefits of going green without proper long-term planning by firms can lead to missed opportunities and vulnerability in the future. On the other hand, a strong focus on tomorrow without proper short-term planning can lead to plans of action lacking the operational and analytical skills needed for implementation (Hart 1997). The same is true for dilemmas associated with managing the internal/external aspects of sustainability vision formulation. A strong internal focus might mean firms are ignoring the perspectives of key external constituencies, whilst a portfolio with a strong external focus can lead to transparent public campaigns labelled as “greenwashing” because the firms’ internal operations still cause significant harm (Hart 1997). In order to achieve this balance, an assessment of the firms’ capabilities in each of the four quadrants is due. In fact, the capabilities in each quadrant can be rated on a scale ranging from non-existent, emerging, established to institutionalized.

26.1.4 Operationalizing the SVF

Putting theory into practice (operationalizing), the SVF challenges firms to pay special attention to the sequence of events that lead to successful planning and executing SVF activities entailed. Whilst planning their sustainable practices undertakings, firms must first consider their internal capabilities (Q1 & Q2), before being able to communicate and integrate the external audience (Q3 & Q4) in these undertakings. Adherence to this pathology in planning SVF activities is crucial to avoid mistakes in executing activities. Whilst executing sustainable undertakings, activities from different quadrants can overlap in the process. For example, efforts to minimize waste from current operations by agents within a firm goes hand-in-hand with the competence development of said agent. Also, technological innovations conjured up in Q2 during planning are used for the execution of environmental best practices in Q1. Therefore, activities identified during the planning phase can be executed simultaneously. Successful integration of external stakeholders into sustainable business processes (Q3) requires firms to have first minimized waste from current operations (Q1) and then develop proper competencies for the future (Q2). Furthermore, crystallizing the firm’s sustainable growth path and trajectory requires targets of internal achievements to be properly communicated to stakeholders. Therefore, Q4 cannot preclude Q3 in execution. Thus there is a certain pathology in the reasoning which the owners/managers must apply in operationalizing their sustainable practices undertakings.

26.2 Materials and Methods

In view of the fact that sustainability research on sustainable practices is still in its infancy stage in Malaysia, the basic aim of this study is to provide a stronger, more integrative, systematic and thorough knowledge of the most common environmental advantages, as well as the difficulties of sustainable practices. Therefore, this study uses a case study approach allowing manufacturing SMEs to investigate and interpret the subject in its context and obtain a fuller and holistic view of the consequences of sustainable practices from a sustainability perspective (Abdul-Rashid et al. 2017). More importantly, this study relies on numerous instances instead of one case, improving the findings robustness and generalizability (Eisenhardt and Graebner 2007) and comparatively new, developing and modern phenomenon in its real, social and organizational context (Yin 2017).

Since qualitative research is mostly based on interviews (Crouch and McKenzie 2006), this study chose semi-structured specialist interviews with skilled and experienced owners/managers as the primary source of empirical information. Additionally, they promote a structured information collection and offer the necessary level of openness to allow unexpected and novel information to arise (Yin 2017), which corresponds to this study's exploratory nature. Between September and December 2018, the interview was performed with five manufacturing SMEs from the Electrical and Electronics (E&E) industry. The E&E industry was selected as it contributes most to the Malaysian gross domestic product. The interviews lasted 45–60 min, and all discussions were performed in English language. Detailed case study information is confidential and anonymized. Table 26.1 illustrated the sample data of the study, and all chosen manufacturing SMEs have over 150 staff. The manufacturing SMEs examined are usually known to be extremely innovative and lead to a multitude of mature and emerging E&E industry. The interviewees are in the top leadership place and are best able to report on the most appropriate sustainable practices-related advantages and difficulties and ensure their understanding of incorporating environmental aspect for sustainability purposes. The design of the interview guide was adopted from the literature, and it followed the principle of openness and flexibility to allow unexpected and different subjects to arise (Kasabov 2015). In the interview sessions, a series of questions related to sustainable practices in operations and the

Table 26.1 Detailed list of sample characteristics

Expert interview	Company years	Management position	Tenure in years	No. of employees	Sales (EUR)
SME-A	>10 years	Owner/manager	12	230	10–50 K
SME-B	>10 years	Manager	15	245	10–50 K
SME-C	5–10 years	Owner/manager	6	210	5–10 K
SME-D	5–10 years	Owner/manager	8	237	10–50 K
SME-E	>10 years	Manager	16	242	10–50 K

potential hazards of environment were used as guides, and follow-up questions were asked to allow interviewees to develop ideas and elaborate points of interest.

The transcription of the five audio-recorded interviews was directed in almost 60 pages of texts. Palinkas et al. (2015) suggest a qualitative content analysis to define and interpret prevalent trends, topics and categories. Since sustainable practices research is still in its infancy stage in Malaysia, this study introduced an inductive coding procedure (Gioia et al. 2013) to promote the development of new information rather than limited to particular hypotheses testing (Graebner and Eisenhardt 2004). To further boost methodological rigour, this study followed Gioia et al.'s widely and academically valued procedure and created first-order (informant-centric) ideas. Secondly, these ideas were synthesized into second-order topics inspired by past experiences from the scarce body of present studies on sustainable practices. Finally, and wherever necessary, this study distilled them into SVF dimensions. The entire coding method was performed to obtain a well-off interpretation and deep comprehension as possible (Aagaard 2019). After coding all interviews, Holsti's implementation of frequency analysis (as cited in Mustapha and Ebomoyi 2019) facilitated the identification of the most common possibilities and difficulties associated with sustainable activities. To account for routine criticism of qualitative research based on specialist interviews (Schüßler et al. 2014), this study improved the validity and robustness of the results by scientifically defined triangulation of secondary information from business websites to check the statements of the interviewees (Eisenhardt and Graebner 2007; Yin 2017).

26.3 Results

This section presents the findings according to the key themes of the interviews. In Table 26.1, the five manufacturing SMEs interviewed are labelled as SME-A to SME-E and referred to throughout the text to provide additional insight into the source from which the findings discussed are extracted. For the purpose of this study, the interviews were examined based on related research propositions. These assertions serve to facilitate the acquisition of insight from the interviews; therefore, the findings of the interviews are discussed in light of each research proposition stated successively. As a result, insight is granted into the current sustainability of the manufacturing SMEs businesses' operations. Once a status quo concerning manufacturing SME's current practices has been established, the analysis provides an exploration of what steps manufacturing SMEs can undertake to successfully implement sustainable practices. This is achieved by first rating the manufacturing SME's capabilities in each quadrant of the SVF. Importantly, the goal of this analysis is to facilitate the establishment of the next steps that manufacturing SMEs can take in order to successfully implement sustainable practices.

Proposition 1 Manufacturing SMEs currently have processes in place geared towards controlling their impact on the environment.

Most manufacturing SMEs do have some practices in place specifically geared towards lowering consumption of waste from current operations (SME-A, SME-C and SME-D) with the exception of some manufacturing SMEs that are yet to integrate any consumption restriction practices into operations (SME-B and SME-E). However, the focus of these practices is not necessarily as much on lowering the pollution streaming from operations as it is on keeping operating costs low amongst manufacturing SMEs. Due to small-scale operations, it is much more important for these manufacturing SMEs to lower their current operating costs in order to raise their overall revenue. This means that most of the manufacturing SMEs are not necessarily aimed at lowering their impact on the environment but to have some alternatives in place which can be used to streamline the implementation of environmental sustainable practices.

26.3.1 Water Management

All the manufacturing firms interviewed in this study documented the cost of their firm's water consumption (SME-A to SME-E). The source of water used by these SMEs is from the local public network. Furthermore, two manufacturing SMEs have implemented technologies into their operations which enable them to control their water consumption (SME-C and SME-D). As these technologies require initial investments to attain, the other three manufacturing SMEs (SME-A, SME-B and SME-E) are yet to plan or implement these technologies in place for their operation processes.

26.3.2 Energy Efficiency

Overall, all five manufacturing SMEs (SME-A, SME-B, SME-C, SME-D and SME-E) keep record on how much their energy consumption is on a monthly basis. However, as manufacturing SME's operations are relatively small, no record is kept on how much energy is consumed by each specific area of operations (production, warehouse, maintenance department tasks, etc.). By measuring and documenting the energy consumption of each specific area of operations within the SME, more targeted action can be taken to lower the energy consumption as a whole. Furthermore, none of the manufacturing SMEs interviewed are currently planning to use renewable energy (SME-A, SME-B, SME-C, SME-D and SME-E). The primary reason for not implementing renewable energy is the fact that this type of energy is more expensive than regular energy usage even though the owners/managers know the cost saving in long terms of operations.

26.3.3 Waste Management

Even though manufacturing SMEs have techniques in place to manage the waste from current operations, most of the waste generated is not sorted properly before being disposed of (SME-A, SME-C and SME-D). Though there are arguably exceptions (SME-B), the improper disposal of waste represents a weakness in the sustainable practices of manufacturing SME's current practices. Even though all five manufacturing SMEs' solid waste disposal system is in place (dispose through authorized disposal contractors), SME-C and SME-E failed to document properly the amounts of waste generated on-site and their respective volumes off-site. It is important to record the on-site and off-site quantities of solid waste from current operations as this control step can reduce the disposal cost.

Proposition 2 Manufacturing SMEs possess sufficient complementary resources to successfully integrate sustainable practices into their operations.

Successful reaping of the benefits associated with implementing sustainable practices in the long run challenges the manufacturing firms to identify complementary resources which they currently possess. From the interviews, it became apparent that all manufacturing SMEs do have a number of these complementary resources at present. The following sub-sections discuss in sequence the practical, structural, human and financial complementary resources.

26.3.4 Practical

Manufacturing SME-A, SME-B, SME-D and SME-E do have some practices in place which can be relatively easy to adjust to meet sustainable practices benchmarks (e.g. water-saving measures, energy efficiency and air quality management). Yet, there are some practices (waste management and sewage treatment) which merit special attention because most manufacturing SMEs interviewed fail to sort their waste properly and quantify their on-site and off-site volumes (SME-C and SME-E) with the exception that small scale of operations facilitates proper sorting and disposal of waste (SME-B).

26.3.5 Structural

All five manufacturing SMEs (SME-A, SME-B, SME-C, SME-D and SME-E) did have the basic installations of electricity and water infrastructure which could facilitate the utilization of sustainable technologies. However, integrating sustainable technologies into operations is a further challenge for some manufacturing firms as these modern innovations could actually clash with the traditional atmosphere

these manufacturing firms are trying to create. According to SME-C, another factor in structural initiatives that need to be considered is the initial cost and routine maintenance cost.

26.3.6 Human

Most of the basic tasks behind running the manufacturing SME's current operations are centralized and carried out by the operational managers (SME-A, SME-B, SME-D and SME-E). Small-scale operations of these SMEs thus often defeat the necessity for a larger team to carry out the tasks. The fact that a minimum level of employees is employed in these SMEs can be considered as the complementary resource in the process of going sustainable, as adapting current practices would require minimal employee training.

26.3.7 Financial

The most noticeable absence of complementary resource was the allocation of a portion of the yearly budget in order to develop sustainable competencies (SME-A, SME-B and SME-D). SME-C and SME-E currently phase in sustainable technologies into their operations as funds to acquire these technologies are necessarily based on customers' requirement.

Proposition 3 Manufacturing SMEs have sufficient access to technological innovations available in the market.

Successful reaping of the benefits associated with implementing sustainable practices in the long run challenges the manufacturing firms to identify the sufficient access to technological innovations which they currently possess. From the interviews, it became apparent that all five manufacturing SMEs (SME-A, SME-B, SME-C, SME-D and SME-E) do have a number of access to technological innovations in their ventures. These are discussed next in the sequence of clean technology and competency development.

26.3.8 Clean Technology

Successful reaping of the benefits associated with implementing sustainable practices in the long run requires manufacturing firms to reposition their internal competencies around more sustainable technologies. Innovation poses a threat solely to SMEs unable to adapt to a changing industrial environment. Therefore, it is crucial for

manufacturing SMEs to continuously keep an eye out for technologies available in the market which could potentially advance their sustainable practices capabilities. However, from the interviews, it became apparent that not all manufacturing SMEs are at the same level when it comes to the technological sophistication in their respective ventures. Though there are some basic technological innovations available in the market (e.g. LED light, centralized air-condition and water-efficiency technologies), SME-C and SME-E do already make use of these technologies compared to SME-A, SEM-B and SME-D as these SMEs lack the resources and budget allocation to acquire and maintain these innovations in the long run.

26.3.9 Competency Development

Adopting clean technologies can only lead to long-term success for manufacturing SMEs if the employees responsible for carrying out tasks received proper training to develop the right competencies. However, as the SMEs' operations are relatively small scale, limited employees were employed to carry out the tasks. Therefore, manufacturing SMEs require less investment in ensuring that their employees get proper training when implementing sustainable practices. In addition, all five manufacturing SMEs interviewed implemented flat organizational structures (top to bottom) with the owner/managers or the operation manager functioning as an integral part of daily tasks. As a result, these owners/managers are constantly in contact with their employees, which ultimately facilitates the transfer of information necessary to successfully transform current practices. Furthermore, it is not the innovation itself but rather the SME's ability to create opportunities in which to engage the key stakeholders of their sustainable practices undertakings which ultimately determines its successful implementation.

26.4 Discussion

26.4.1 The Sustainable Value Creation Process

A cornerstone of this analysis is the supposition that the manufacturing SMEs are able to create sustainable value from the implementation of sustainable practices by operationalizing considerations relative to each of the four quadrants of the SVF successively. Successfully operationalizing these considerations further challenges manufacturing SMEs to find the right balance between the many elements of each quadrant. This is in order to avoid the pitfalls of inaccurately going sustainable practices. In contrast, the manufacturing SMEs are only able to establish tangible steps in the process of going sustainable practices once a rating regarding their current sustainable capabilities has been completed. Therefore, the primary focus

of this analysis is to rate the current capabilities of manufacturing SMEs in each successive quadrant of the SVF. Capabilities in each quadrant are rated on a scale ranging from non-existent, emerging, established to institutionalized. This rating is important to get a better understanding of the status quo regarding manufacturing SMEs' sustainable practices capabilities. In fact, the ultimate goal of this analysis is to help manufacturing firms to identify the next steps they can take to successfully undergo sustainable practices. As the manufacturing SMEs' current capabilities have been discussed, the next course of action can be undertaken relative to each quadrant of the SVF.

26.4.1.1 Quadrant 1—Pollution Prevention

Status Quo: The goal in Quadrant 1 is to adapt the manufacturing SMEs' practices in order to lower the emission streams from current operations. Manufacturing SMEs' current pollution prevention capabilities can be rated as emerging at best. Even though firms do have some practices in place and aimed at lowering the waste generated from current operations, these practices are not specifically geared towards limiting their operations' environmental and sustainable impact. Transforming current practices requires a commitment to the environment in which manufacturing SMEs' operations are embedded. Furthermore, manufacturing SMEs do have some complementary resources in place which can greatly aid in the process of streamlining environmental best practices. Even though their current practices represent a starting point as far as manufacturing SMEs' sustainable endeavours are concerned, they still have a long way to go in developing their pollution prevention capabilities.

Next Steps: There are a number of sustainable best practices that manufacturing SMEs can use in order to make their operations more sustainable (e.g. Zein et al. 2008). Yet even the longest of journeys begin with a first step, thus choosing to embark on any sustainable journey is better than idly standing by for some manufacturing SMEs. More important than which sustainable strategies firms choose to pursue is the manner in which they tackle these challenges, which will ultimately determine their success and sustainability. Thus, successfully implementing sustainable practices into their operations requires manufacturing SMEs to first establish a commitment to the natural environment in which they operate and the preservation of its resources. Furthermore, sustainable practices serve the purpose of helping manufacturing SMEs reduce their waste and cost resulting from current operations. As each SME represents a unique entity facing unique challenges when moving to sustainability agenda, completing a checklist for sustainable practices is a solid next step each manufacturing SME can take in order to successfully implement sustainable practices. By the insight generated from this firm-specific analysis, the complementary resources firms currently possess in the process of going sustainable are also revealed. Finally, the importance of properly documenting sustainable endeavours must be emphasized thoroughly. Properly quantifying the impact that current operations have on the environment and the influence that implementing sustainable

practices has on these operations is a means through which the manufacturing SMEs can monitor the success or failure of their sustainable practices undertakings.

26.4.1.2 Quadrant 2—Clean Technologies

Status Quo: The focus of Quadrant 2 is on acquiring clean technologies and developing the proper competencies which facilitate manufacturing SMEs use in the long run. Manufacturing SMEs' current capabilities regarding the adoption of clean technologies can be rated emerging at best. Though some manufacturing SMEs have integrated sustainable technologies into their operations to a certain extent, other manufacturing SMEs are yet to invest in basic technologies which could help them streamline the execution of sustainable practices in the long run. This highlights a gap in resources available to manufacturing SMEs in the process of going sustainable practices and represents a major weakness in their ability to achieve long-term growth and sustainability.

Next Steps: Adopting clean technologies enable manufacturing SMEs to play a pro-active role in managing their environmental impact, yet each SME has unique technological needs when it comes to their current levels of technological sophistication. Therefore, manufacturing SMEs need to first identify which technological innovations meet their current sustainable needs. Second, reaping long-term benefits associated with clean technologies requires SMEs to manage the competencies developed by their employees as well. This can be achieved by establishing a roadmap today for which competencies need to be developed in order to sustain clean technologies and successively to ensure that these competency development needs can best be met in the sustainable practices endeavour. Finally, shifting manufacturing SMEs' technological capabilities towards more sustainable technologies can only be considered if and when the current gap in their access to sustainable technologies is bridged. Fact remains that the resources needed to acquire sustainable innovations are only half the story. Maintaining them can lead to future costs which are currently unforeseen, potentially hindering the entire sustainable value creation process if inadequately planned. Therefore, manufacturing SMEs should only invest in clean technologies they can feasibly maintain in the long run.

26.4.1.3 Quadrant 3—Product Stewardship

Status Quo: The focus of Quadrant 3 is on integrating stakeholders' views into business processes. Manufacturing SMEs currently do not engage their key stakeholders in their sustainable endeavours as they are yet to institutionalize sustainable practices. Therefore, their capabilities of engaging suppliers in their sustainable practices can currently be rated non-existent.

Next Steps: Even though manufacturing SMEs are only able to engage suppliers once sustainable practices have been institutionalized, manufacturing SMEs are able

to communicate their sustainable intentions to suppliers beforehand. Besides reaping goodwill from supplier through these efforts, manufacturing SMEs are able to engage this supplier by inquiring their creative solutions for sourcing more sustainable materials. Informing suppliers the sustainable intentions of the firms can also be done online through the firm's website. Furthermore, there are other simple measures that manufacturing firms can integrate across the suppliers' cycle to engage supplier without having sustainable practices institutionalized, e.g. providing the supplier with customers material data and include suppliers' participation in R&D process and value engineering process.

26.4.1.4 Quadrant 4—Sustainability Vision

Status Quo: The goal of Quadrant 4 is to enable manufacturing SMEs to capitalize on future markets by strategically aligning with incumbent industry operators and the government. Manufacturing SMEs are only able to positively contribute to a strategic alliance with incumbent industry operators and the government if and when they have successfully integrated sustainable practices into their own operations. Given that manufacturing SMEs are yet to institutionalize these practices, their capabilities for aligning with complementary partners in pursuit of sustainable value are currently also non-existent. However, most manufacturing SMEs interviewed realize the growing importance of going sustainable practices in the development of future markets, and they are challenged to prepare today for these future developments.

Next Steps: Crystallizing the sustainable growth of the entire industry challenges incumbent industry operators and the government to unite in an effort to empower the most fragile elements operating within the industry. Because manufacturing SMEs share a common customer base with large manufacturing firms and their operations ultimately impact the society for which the local government is responsible. These three parties are able to translate their current shortcomings into sustainable value for the entire industry. By aligning their sustainable practices undertakings with those of large manufacturing firms, manufacturing SMEs are also empowered through the technological resources and social legitimacy that large manufacturing firms contribute to such a strategic alliance. In the same token, the cost–benefit manufacturing SMEs can reap by developing sustainable practices competencies at the group level with complementary partners can play a key role in their long-term growth. Furthermore, the government is able to pro-actively meet their societal obligations by providing tax incentives for manufacturing firms willing to go sustainable practices, freeing up funds to invest in clean technologies. Therefore, it is important for manufacturing SMEs to establish communication channels today with incumbent industry operators about the many benefits all parties can reap by strategically aligning their sustainable practices efforts. These efforts could foster the reciprocal behaviour necessary for the formation of a partnership in the future. The next concrete steps manufacturing SMEs can undertake to create sustainable value over time, along with the practical implications that operationalizing considerations relative to each of the four quadrants, are discussed in the following sub-section.

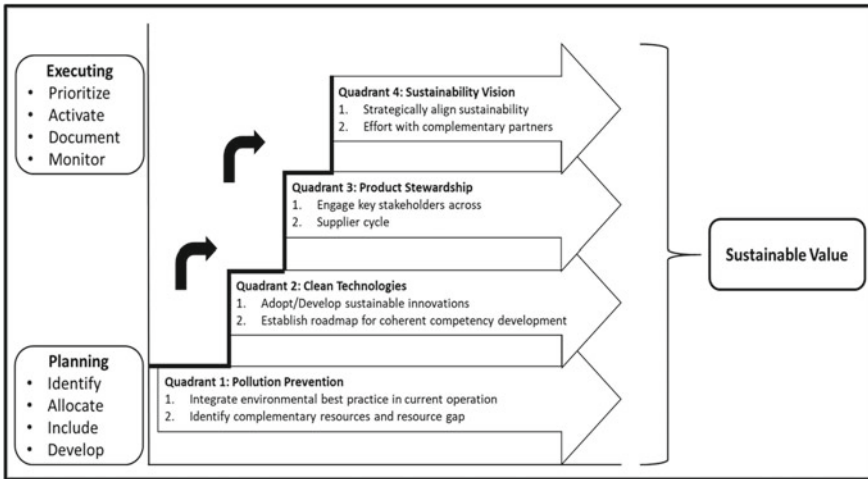


Fig. 26.2 Perpetual path manufacturing firms

26.4.2 Creation of Sustainable Value

The bold line in Fig. 26.2 represents that the perpetual path manufacturing firms must travel in order to successfully implement sustainable practices into their operations over time. The horizontal axis represents the time that manufacturing firms should dedicate to correctly plan sustainable activities and the vertical axis represents the actual execution of planned activities.

Creating long-term sustainable value from the implementation of sustainable practices challenges manufacturing SMEs to successfully operationalize considerations relative to each of the four quadrants of the SVF. Successfully operationalizing activities over time enables manufacturing SMEs to generate sustainable value in their operations. However, successfully operationalizing these four quadrants challenges manufacturing SMEs to take into consideration not only what actions they can undertake, but also how these practices are undertaken. More specifically, manufacturing SMEs are challenged to find a balance between the operationalization of the four quadrants, and this is achieved by taking a number of considerations regarding first planning and successively executing each quadrant into account. In order to achieve the SVF perpetual path, manufacturing SMEs must plan (identify, allocate, include and develop) sustainable activities. Table 26.2 describes the planning stages of sustainable activities to optimize the contents of SVF.

Table 26.2 Planning sustainable activities

Planning	Descriptions
Identify	Complementary resources and resource gaps. It is essential for manufacturing SMEs to develop an understanding of where they currently reside on the path towards sustainability before deciding to embark on sustainable practices. This can be achieved by identifying the resources they dispose of and those they are lacking in this process
Allocate	Resources available based on resource mobilization necessary to adjust current methods. The best practices ultimately are those which firms are able to tailor specifically to their operating needs and require minimal resource mobilization in order to adapt from the status quo
Include	The costs of maintaining sustainable innovations in the long term. Assuring that manufacturing SMEs take into account not only the current investment costs but also future maintenance costs of going sustainable is essential to achieving long-term success
Develop	Coherent trajectories in achieving sustainable milestones and establish feasible definitions of what achieving success actually means. This further challenges the manufacturing SMEs to establish feasible ways in which to measure their sustainable achievements like the bridging of resource gaps and the development of employees' competencies in the long run

26.4.2.1 Planning

Once the sustainable activities are planned, the next stage is to execute (Prioritize, activate, document and monitor) the sustainable practices at the firm level first. Table 26.3 illustrates executing the sustainable activities to optimize the contents of SVF.

26.4.2.2 Executing

See Table 26.3.

26.5 Implications for Theory and Practice

Even though the data gathered in this study was from the manufacturing SMEs, the sample taken is not representative of the industry as a whole. To gather a better understanding of how incumbent industry operators are able to successfully implement sustainable practices, additional insight regarding the undertakings of more manufacturing SMEs is necessary. In addition, manufacturing SMEs' abilities to conduct sustainable operations are partly determined by the input of other ventures within the same industry (e.g. suppliers). Therefore, investigating further how manufacturing SMEs can cooperate with operators across their value chain can also provide valuable insight into the critical success factors of manufacturing SMEs sustainable

Table 26.3 Executing sustainable activities

Executing	Descriptions
Prioritize	Execution of activities based on paths established in the planning phase. Manufacturing SMEs' ability to follow planned paths is a direct determinant of their ability to achieve milestones of planned success
Activate	The actual execution of planned activities based on milestones achieved in previous quadrants. Manufacturing SMEs should only start executing considerations relative to successive quadrants if and when planned measures of success have been accomplished in previous quadrants. It is the degree to which success has been booked in previous quadrants which provides successive ones with substance; starting with Quadrant 1
Document	The results of sustainable practices undertakings as established during the planning phase. This body of knowledge gathered from successes and mistakes can facilitate the learning process in manufacturing SMEs. Monitor progress periodically in order to ensure that manufacturing SMEs' progress is on track. Practices should continuously be adjusted to reflect the changing needs and wants of the market. Therefore, manufacturing SMEs should also continuously reconsider the complementary resources they possess and identify new resource gaps as they become relevant
Monitor	Progress periodically in order to ensure the manufacturing SMEs' progress is on track. Sustainable practices should continuously be adjusted to reflect the changing needs and wants of the market. Therefore, manufacturing SMEs should also continuously reconsider the complementary resources they possess and identify new resource gaps as they become relevant

practices undertakings. Even though the focus of this study has been on empowering the manufacturing SMEs, perspectives are assumed in establishing the next steps that can be taken in order to successfully institutionalize sustainable practices through SVF. Henceforth, the perspectives of large manufacturing firm operating in the E&E manufacturing industry are not inquired and thus serve as a potential avenue for future research. Also, the creative ways in which governments are able to play a proactive role in fostering the mutual behaviour necessary to successfully implement sustainable practices need further attention. The applicability of operationalizing considerations relative to the four quadrants in the manufacturing industry is tested in this research. However, another potential avenue for future research is testing out the applicability of this framework in other industries. Gaining insight into the challenges that translating these considerations in terms relative to other industries will in turn contribute additional insight into the generic considerations which are true for all industries.

26.6 Conclusion

This study presents the analysis leading up to answering the main research question. The goal is to identify what steps manufacturing firms can take to successfully implement sustainable practices in their operations. In order to achieve this, the insight gathered from interviews with the owners/managers of five manufacturing SMEs are presented in light of each of the three research propositions stated. Manufacturing SMEs' capabilities in each quadrant are then rated on a scale ranging from non-existent, emerging, established to institutionalize. As a result, the considerations that manufacturing SMEs must take into account in each quadrant to successfully implement sustainable practices are identified. By integrating sustainable practices into their current operations, manufacturing SMEs are able to save costs whilst reducing the impact of their operations have on the environment. Finally, successfully streamlining sustainable practices into current operations challenges manufacturing SMEs to identify the complementary resources they currently have to their disposition which could aid them in the process of implementing sustainable practices through sustainable value. In doing so, the resource gaps in manufacturing SMEs' access to clean technologies also become apparent. On the long term, however, it is the manufacturing SMEs' ability to bridge these resource gaps and develop the proper competencies which moderate their capability to reap the benefits associated with adopting clean technologies. Therefore, it is important for manufacturing SMEs to establish coherent roadmaps to ensure that the proper competencies are developed to sustain adopted technologies. Finally, it is not only about what actions manufacturing SMEs undertake but how they go about sustainable endeavours which ultimately determines their long-term growth and sustainability.

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Chapter 27

Adaptability of SMEs Owners'/Managers' Environmental Attitude and Values



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Abstract In the quest for a sustainable society, green management has taken the forefront. Nevertheless, manufacturing small–medium enterprises (SMEs) have on the whole fallen behind in attempts to reduce environmental impact and have been noted to face particular challenges in undertaking and implementing environmental improvements in their operations. Furthermore, the global burden of sustainable green practices had begun to tilt sharply toward the developing countries such as Malaysia, and this will be a significant challenge to meet the United Nation’s Sustainable Development Goals. For this reason, the aim of this study encompasses owners’/managers’ environmental attitude and personal values toward sustainable green practices in Malaysian manufacturing SMEs. Furthermore, to fulfill this gap, this study was conducted to examine the interrelationship between owners’/managers’ environmental attitude and personal values on sustainable green practices and to understand what motivates SMEs owners/managers to improve their environmental performance and explore the challenges faced in the SMEs. Administrative questionnaires were used to collect data from 260 manufacturing SMEs. Results indicated that environmental attitude has a significant positive effect on the firm’s sustainable green practices, but such effects were not shown by environmental values. It offers a generalized sustainable green practices implementation linking SMEs owners/managers with the integration of Sustainable Development Goals 9 and 12.

Keywords Sustainability · Small–medium enterprise · Owners’/managers’ · Environmental attitude · Environmental values

27.1 Introduction

SMEs are essential in practical and political terms to respond to environmental problems. While the environmental effects of individual enterprises are smaller than

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those of bigger ones, they have a significant combined impact (Hillary 2017) and provide significant potential for eco-innovation and pro-environmental influence (Kim et al. 2017). Governments and organizations supporting company continue to encourage SMEs' environmental participation, primarily based on a "win-win" argument that will simultaneously decrease expenses or boost competitiveness in pro-environmental investments (Revell et al. 2010). However, it is hard to secure the commitment of manufacturing SMEs to manufacture as they are often struggling to comply with or stay unacceptable to classic "win-win" arguments (Horn 2014). There is proof that manufacturing SMEs are engaged in environmental issues which often arise from their owners'/ managers' environmental behaviors (Brammer et al. 2012). It should be recognized that the role played by attitudes and values in the environment of manufacturing SMEs is still under investigation (Schaefer et al. 2018). In fact, the majority of research concentrate on big companies and either differentiate between self-transcending values (Faller and zu Knyphausen-Aufseß 2018; Jansson et al. 2017) or concentrate on a very small spectrum of values (Hillary 2017), and the main subject of these research is big companies. In spite of this, the examination of individual attitudes and values in the context of SME is essential because smaller companies are often formed out of personal beliefs instead of purely economic reasons (Schaefer et al. 2018). Furthermore, the owners/managers in specific tend to have broader strategic control rather than big firms' managers (Faller and zu Knyphausen-Aufseß 2018), and their attitude and personal values can impact their general direction of the SMEs more directly (Schaefer et al. 2018). This study, therefore, attempts to undertake broad-based empirical investigations of manufacturing SMEs owners'/managers' environmental attitude and personal value in relation to the context of sustainable green practices in Malaysia.

27.2 Literature Review

27.2.1 *Owners'/Managers' Awareness*

With a growing understanding of environmental issues, the demand for the environment-friendly product and services has grown. The previous study has shown that environmental management procedures affected current and potential stakeholder organizations in the form of internal pressures of politicians, environmental organizations, economic institutions and customers (Jansson et al. 2017), and in-house stress on the owners and managers of environmental expertise by employees (Gadenne et al. 2009). Despite the so-called "green" consciousness of a firm's owners/managers, their attitudes and personal value in sustainable green activities remain insignificant (Williams and Schaefer 2013). Numerous studies, in comparison, focused on the barriers and drivers for manufacturing SMEs when considering environmental improvements (Brammer et al. 2012), and many empirical studies

show that manufacturing SME owners/managers lack consciousness and engagement to decrease their adverse effect on the environment (Revell et al. 2010; Brammer et al. 2012; Gadenne et al. 2009). This is important to understand primarily because the owners/managers feel that their environmental effect is minimal and often they do not see any reason to improve their environment (Schlosberg 2019). At the same time, this shows the trouble of attempting to make owners/managers aware of this cohort. As such, this research aims to examine the contexts and mitigating situations that sustainably adopt the green practice to owners/managers through their environmental attitude and personal behavior.

27.2.2 Environmental Attitude

The personal approach of an owner/manager to the natural environment is, according to Williams and Schaefer (2013), very significant in answering environmental problems. In addition, Yacob et al. (2019) asserted that manufacturing SMEs with owners/managers who are highly environmental in character implement a range of environmental practices and guidelines for better environmental management. In spite of this, Epstein (2018) stated that the dedication of top management affects environmental management practices in companies considerably. Although the previous study verified that managerial behaviors affect big companies directly (Brammer et al. 2012), very few research on small companies has asserted that this dependence is unclear and further study needs to be done in order to verify the direction of managerial attitudes toward the environment. Although this may be true, Cassells and Lewis (2011) claimed that there is a lack of positive association of the owner's/manager's position with the design of environmental and operating procedures for small companies. Furthermore, Testa et al. (2016) emphasize the significance of evaluating the environmental impact of the owners'/manager's attitudes of manufacturing SMEs and implementing proactive environmental policies. While some surveys of owners and management have shown an economic stance on company strategies (Choudhury et al. 2019), none of them has stressed sustainable green practices among manufacturing SMEs and how owners'/managers' attitude will shape the decision-makers understand sustainable green practices in SMEs. Therefore, this study aims to examine the approach of the owners/managers on sustainable green practices in SMEs.

27.2.3 Personal Values

Values are enduring, normative beliefs about adequate behavior norms, preferred or desired outcomes (Rokeach 1979; Leung and Morris 2015). Fritzsche and Oz (2007) discovered that altruistic or self-transcending values were favorably linked to ethical decision-making by SMEs owners/managers, while Goebe et al. (2018)

claimed that self-enhancing values were negatively linked to ethical decision-making. Unlike managers of big companies, small organization founders or owners/managers often create companies that match their personal ambitions and philosophies. They often have higher strategic and operational discretion over their company, and their own vision of permeating organizational values and culture is generally within their authority (Jamali et al. 2009; Cameron and Quinn 2011; Slesman et al. 2018). Personal ethics and business ethics can thus be closely aligned in SMEs than in bigger companies (Kim et al. 2017; Williams et al. 2017). For these factors, Gadenne et al. (2009) claim that ethics and religious values are the most coherent factors behind SMEs' sustainable green practices, and Madueño et al. (2016) indicate that SMEs may be better positioned to embrace socially responsible practices than bigger companies. These factors arose to some extent in empirical research connecting values and environmental commitment (Revell et al. 2010; Schaefer et al. 2018; Rasi et al. 2014). In specific, in environment-friendly SMEs like those belonging to a green business network, owners'/managers' private values seem to play a much greater role in motivating pro-environmental behaviors than in other SMEs (Epstein 2018). In summary, there is a lack of systematic, in-depth evidence on how owners'/managers' value domains relate to their engagement with environmental issues and sustainable green practices. Therefore, the present study seeks to examine owners'/managers' personal value toward sustainable green practices in manufacturing SMEs.

27.3 Methodology

27.3.1 Respondents and Data Collection

The target population for this study is 768 manufacturing SMEs in Malaysia. Four hundred manufacturing SMEs were contacted but only 272 manufacturing SMEs returned the survey via conventional and electronic mail. The overall response rate was 68.0%. However, nine respondents indicated that their firm is not adopting any green initiatives approach toward sustainable green practices based on the 24 questions in the questionnaire form. In minimizing response bias that may disrupt the interest of this research, this study excluded 13 responses, where 9 responses were described above, and 3 additional exclusions were of a questionnaire which contained more than 20% missing data. Therefore, the usable rate of return is 65.0%, and this value is equivalent to 260 sets of data. Based on Babbie (2007) and Taherdoost (2017) recommendation, this quantity is adequate for multivariate analyses and reporting as they advocated for a minimum of 50% response rate.

27.3.2 Measurement Scale

A five-point Likert scale from “strongly disagree” to “strongly agree” was used for the questionnaire. To meet the study objectives, Section A of the questionnaire titled “Demographic Profile” contains ten selected demographic questions of the researcher. Section B titled “Environmental Attitude” contains six questions adapted from Revell et al. (2010) and Gadenne et al. (2009). Section C titled “Personal Value” contains six questions adapted from Dunlap et al. (2000). Finally, the dependent variable titled “Sustainable Green Practices” in Section C and all six questions make-up in this variable were adopted and translated from Cassells and Lewis (2011) study. It is worth noting that a pre-test was performed by ten managers prior to proving each questionnaire, helping to highlight questions which would not be clear or which would lead to misunderstanding in response to each questionnaire. After the test has been performed, we have produced changes to several issues so that the participants can comprehend them completely.

27.4 Findings

The analysis of the research model and the hypothesis test was carried out using Statistical Package for the Social Sciences (SPSS 23.0). The findings of this study are divided into three sections. First section discloses the demographic result, whereas the second section reveals the factor analysis result, followed by linear regression analysis.

27.4.1 Demographic Results

The respondents to the survey consisted of 85.4% males and 14.6% females and half of the respondents (53.8%) are in the age group of 41–50 years, followed by 30–40 years (27.3%), above 50 years (15.8%), and less than 30 years (3.1%). Most of the respondents were a manager (37.7%), followed by owner (21.9%), director (17.7%), head of the department (15.4%), and owner and manager (7.3%). The main activities of responded SMEs are Electrical and Electronics (41.9%), followed by apparel and textiles (20.8%), food and beverage (14.2%), rubber and plastics (18.1%), and chemical products (5.0%). Almost half of the respondents have 6–10 years of attachment in the organization (49.6%), followed by more than 10 years (25.8%), 2–5 years (23.8%), and less than 2 years (0.8%). Majority of the respondents have more than 10 year’s attachment in the industry (80.4%), followed by 6–10 years (16.2%) and 2–5 years (3.5%). Majority of the respondents were working in medium-sized SME with 75–200 employees (75%), while another 25% working in small-sized SME with 5–75 employees. Most of the company’s annual sales turnover was between

RM21 million and 40 million (66.5%), followed by between RM 11 million and RM 20 million (18.1%), and between RM 41 million and RM 50 million (15.4%).

27.4.2 Factor Analysis

To establish criteria ranking, factor analysis was conducted on 18 constructs using the principal component analysis (PCA) with Varimax rotation (Hair et al. 2010). The result of Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.921 with Bartlett's test of sphericity significant at the value of 0.000, which indicated the sample adequacy with statistical significance. The results shown in Table 27.1 demonstrate a degree of convergent validity for all 18 items as they had loadings above 0.50 on their expected constructs. On the other hand, reliability analysis was done to ensure that the measures of the variables are internally consistent across time and across the various items measuring the same concept or variable (Sekaran and Bougie 2016). The values of Cronbach's alpha ranged between 0.864 and 0.942. As these values exceed the minimum value of 0.70 (Nunnally 1978), it can be concluded that the reliability level of the measures is acceptable.

27.4.3 Linear Regression Analysis

The purpose of linear regression analysis is to evaluate the relative impact of an independent variable on a dependent variable (LeBreton and Tonidandel 2008). This is different from a correlation analysis, where the purpose is to examine the strength and direction of the relationship between two random variables (Zou et al. 2003). In this study, the direct relationship between independent variables with the dependent variable was tested. Table 27.2 provides the results related to the analysis of independent variables of environmental attitude and personal value with the dependent variable of sustainable green practices.

With reference to Table 27.2, H_1 was intended to predict sustainable green practices based on the environmental attitude of SMEs owners/managers. A significant regression equation was found $F(1, 258) = 152.535, p < 0.001$, with an R^2 of 0.372 and subsequently, environmental attitude accounted for 37.2% of variance in sustainable green practices. It is predicted that sustainable green practices are equal to unstandardized (B) coefficient of $4.018 + 0.392$ unit when the environmental attitude is measured. Therefore, sustainable green practices increased by 0.392 for each unit of environmental attitude. With the above result, the regression model shows that a positive relationship exists between environmental attitude and sustainable green practices and H_1 is accepted.

Apart from H_1 , Table 27.2 shows the result obtained for H_2 in predicting sustainable green practices based on the personal value of SMEs owners/managers. A non-significant regression equation was found $F(1, 258) = 12.843, p > 0.001$,

Table 27.1 Factor loading and Cronbach alpha's result

Variable	Items	Factor loading	Cronbach's alpha
Environmental attitude	Environmental law	0.745	0.940
	Environmental planning	0.830	
	Water pollution control	0.852	
	Energy efficiency	0.767	
	Air pollution control	0.839	
	Waste management	0.538	
	Human has the rights to modify the natural environment to suit their needs	0.631	
Personal value	When humans interfere with nature, it often produces disastrous consequences	0.824	0.864
	Human severely abusing the environment	0.750	
	The balance of nature is strong enough to cope with the impacts of modern industrial nations	0.623	
	Despite our special abilities, humans are still subject to the laws of nature	0.878	
	The so-called "ecological crisis" facing humankind has been greatly exaggerated	0.750	
	Products are designed in a way that minimizes adverse impact on the environment	0.560	
	Uses life cycle analysis to assess the environmental impact of the product	0.736	
Sustainable green practices	Carries out environmental audits at regular intervals	0.764	0.942
	Requires all suppliers meet certain environmental criteria before sourcing materials	0.748	
	Our company hires external experts as a consultant in dealing with environmental issues	0.634	
	Has a clear vision of the importance of environmental policies	0.705	

Table 27.2 Linear regression analysis

Hypothesis	Variables	R ²	Unstandardized coefficient B	F	Sig
H ₁	Environmental attitude	0.372	4.018	152.535	0.000
H ₂	Personal value	0.011	1.148	12.843	0.093

Note Dependent variable: Sustainable green practices. ***Correlation is significant at the 0.001 level (2-tailed)

Significant levels: ***p < 0.001; **p < 0.01; *p < 0.05

with an R² of 0.011. The R² value indicates that nearly 0.11% of the variation in owners'/managers' personal value was predicted by sustainable green practices, and according to Cohen (1988), this suggests a low effect. In addition, it is predicted that sustainable green practices are equal to unstandardized (B) coefficient of 1.148 + 0.103 unit when owners'/managers' personal value is measured. Therefore, the regression model Table 27.2 shows that a weak positive relationship exists between owners'/managers' personal values and sustainable green practices, and it is concluded that even the levels of owners'/managers' personal values increase, and then it does not necessarily increase the levels of sustainable green practices. Therefore, H₂ is rejected.

27.5 Discussion

Based on the above result, the owners'/managers' environmental attitude shows an initial indicator that current manufacturing practices are investing managerial, technical, and financial resources in creating sustainable green practices in their manufacturing SMEs. Furthermore, managerial attitudes are of critical importance in relation to forming goals, as well as its impact on the subsequent action. Attitudes are recognized as seriously influencing decisions and resource allocation to specific actions in dealing with environmental issues (Colwell and Joshi 2013; Triguero et al. 2016). This significant relationship was supported in studies by Gadenne et al. (2009), Cassells and Lewis (2011) in which owners/managers expressed highly positive attitudes through their environmental actions. Compared to other studies (Schaefer et al. 2018; Rutherford et al. 2000), owners/managers were much more inclined to emphasize their own role in solving environmental problems rather than relying on the government to take lead. In addition to more sustainable practices (Brammer et al. 2012), SME owners/managers and management staff who demonstrated pro-environment behavior also demonstrated higher institutional participation in those activities. In other words, the ecological view of owners/managers can affect environmental strategies and results based on their cognitive significance (Jansson et al. 2017; Yacob et al. 2019). In view of all the other forces influencing sustainable green practice, such as the organizational resource and capacity, organizational structure and scheme, as well as the multiple stakeholders' distinct concerns (Milfont and

Duckitt 2004), this correlation suggests that the attitude of owners/managers can be among the most important variables affecting SMEs in sustainable green practice.

On the other hand, as perceived, SMEs owners'/managers' personal values have a relatively weak explanation power in the variance in sustainable green practices aspects since there are a plethora of drivers that influence SMEs owners'/managers' behavior in SMEs (Rasi et al. 2014; Potocan et al. 2012). This confirms that owners'/managers' values are an important driver for SMEs owners'/managers' perception toward sustainability (Nordlund and Garvill 2002). Considering actions that are triggered by values, SMEs owners'/managers' values emphasize personal success by demonstrating competence in line with valid environmental standards. Furthermore, the results for Malaysian SMEs owners/managers confirm that their heightened need for achievements increased their personal values toward striving solely for environmental results and sustainable green practices. Indeed, the determination of SME owners/managers that their companies embrace sustainable green practices is largely founded on rational choices (Nejati et al. 2014), which are the compensation between expenses, advantages, and the risk to spread fresh technologies and apply them in their business processes (Jain et al. 2016).

In conclusion, although the results show that owners'/manager's personal values are weakly connected with sustainable green practices, SME's owners/managers still want to be environmentally friendly and want to positively affect sustainability (Mitchell et al. 2011; Roxas and Chadee 2016). Any study designed to identify the prospective drivers of environmental change must take into consideration the distinctive behavior, and connection, of SME owners/managers. Based on our results, there are significant consequences for professionals and governments. The study's first implications relate to the business skills of SMEs. The entrepreneurial conduct of owners/managers should be fostered through modifications of mind, procedures, and decisions (Mukherji and Mukherji 2017; Serrano 2017). They must be proactive in handling green issues, innovate and support fresh thoughts, and be prepared to take risks in order to test fresh and uncertain products or services. They also need to be more aggressive and compete with local and international players in a positive way. The role of networking is the second implication. SME owners/managers need, in particular with appropriate public organizations and/or organizations, to develop and/or reinforce their networking attempts. Luo et al. (2011) and Maltzie (2015) report that higher level networking gives small- and medium-sized businesses preferential access to use market data, a greater chance of monetary and non-monetary incentives in governance, and help to decrease bureaucratic delays. SMEs must also make use of networking possibilities, since they are crucial in achieving the achievement of sustainable green practices, in terms of economic and non-financial assistance (Garetti and Taisch 2012). The third implication is the preparation of the organization. In order to be able to maintain their company in the long term, SMEs need to create management skills and company skills. An SME leadership team should be prepared not only to have diversity in technical and company abilities (Crane et al. 2019), but also to work hard, be aware of any modifications in the environment (Hillary 2017), be able to forecast behavior in the overseas market (Roxas and Chadee 2016), and take fast and precise choices (Choudhury et al. 2019). Owners/managers

should empower other executives to be more proactive and creative in their fields. The coordination and integration with other SMEs, MNCs, and their suppliers and/or subsidiaries could strengthen internal resources and strong competence.

In spite of the owners'/managers' environmental attitude and personal values, many variables can affect the long-term growth of manufacturing SMEs sustainable green practices. However, we believe that, in the proactive interaction with environmental sustainability, the degree of synergy between social and environmental SDGs and the uniform geographic distribution of the technology will be crucial. Although sustainable green practices have been argued to facilitate environmental sustainability when integrated with the SDG, the prospect of inclusion could alter into a pessimistic situation. The pessimistic scenario shows an adverse effect on environmental performance when combining certain elements such as unskilled labor, high obsolescence, high customer demand, and low eco-efficiency (Ford and Despeisse 2016). The starting point of the industrial structure is another factor that can drive long-term responses because it might be influenced differently, and the quality of modifications can differ among countries (Beier et al. 2017). To prevent the pessimistic situation, new business models should be introduced in which social media data can be used to encourage pro-environmental actions (Müller et al. 2018) and select goods which are environmentally friendly. Customers and manufacturing SMEs employees could also encourage feedback to co-create value (Aquilani et al. 2018).

27.6 Conclusion

Globalization has encouraged the emergence of customers who are environmentally conscious and supportive of sustainable green practices. The results of this study indicate the emergence of a valid and reliable sustainable green practices construct, and the impact of this construct on business performance. The sustainable green practices can be considered as a new, but the overlooked, capability of operations management. It is considered overlooked because typically little is known about these systems, despite several international standards and environmental systems concerning environmental, health and safety which have been around for some time. The focus of this study is to define and bring about a better understanding of the impacts of green initiatives, owners'/managers' intention toward green as well as the green technology adoption in manufacturing SMEs.

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Chapter 28

An Overview of Real Estate Modelling Techniques for House Price Prediction



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Abstract Housing price prediction in real estate industry is a very difficult task, and it has piqued the interest of many researchers over the past years in the quest to look for a suitable model to predict the price of property. For this reason, this paper aims to review the literature on the application of modelling technique that is usually being implemented to indicate the price prediction for properties. The modelling technique includes the Artificial neural network (ANN), Hedonic price model (HPM), Fuzzy logic system (FLS), Support vector machine (SVM), Linear regression (LR), Decision tree (DT), Random forest (RF), K-nearest neighbour (KNN), Partial least square (PLS), Naïve bayes (NB), Multiple regression analysis (MRA), Spatial analysis (SA), Gradient boosting (GB), Ridge regression, Lasso regression and Ensemble learning model (ELM). All these models were reviewed, and the explanation of advantages and disadvantages of each model was included. Hence, this paper reports the findings of reviews made on models which deal with regression and classification problem.

Keywords Modelling technique · Real estate · Price prediction · House price prediction · Programming · Regression · Classification

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28.1 Introduction

Real estate has always had a high demand in every developing country and city. Housing is one of the basic human needs, and property price is one of the criteria for any purchaser to decide on purchasing a property (Ong 2013). Previous studies have stated that property price is usually affected by a few factors that include economics and physical characteristics such as location, environment, feature material and branding (Mihaljek 2007; Burinskien 2011; Candas et al. 2015). In addition, another factor that makes property price become cumbersome to figure out is the exact price of properties using conventional methods. The conventional methods are inclusive of sales comparison, cost, rental, investment, profit and residual methods that are used to predict the property price (Nejad and Lu 2017; Pagourtzi et al. 2003).

Currently, market data from real estate transactions show that the analysis of property data over time causes the valuers to face difficulties in predicting housing price (Sabina and Trojanek 2014). The problem is that accurate result in prediction of real property price is crucial for developers, prospective owners, appraisers, investors, tax assessors and other real estate market stakeholders. Hence, the industry may require valuers to prepare a model in predicting the price of the property: the effort would involve discussion and take into consideration various factors that can affect the property price.

To achieve this requirement, some computing techniques that can handle big data may become a suitable choice. These modelling techniques can simplify the research on complicated data that contains relationship between independent variable (IV) like a property price and dependent variable (DV) which means the feature. Due to these matters, numerous researchers have utilized some modelling techniques like ANN, HPM, FLS, SVM, LR, DT, RF, KNN, PLS, NB, MRA, SA, GB, ridge regression, lasso regression and ensemble models. In relation to this study, researchers would go through a few price prediction models and summarize those that are found to be suitable modelling techniques that are usually implemented in making price prediction for properties.

28.2 Applications of Modelling Techniques in Property Pricing: Review of the Literature

As stated earlier, there are several modelling techniques that are being implemented in property price prediction. These modelling techniques are under econometrics which means that modelling is more concerned with the use of statistical or mathematical method.

An example of previous studies on real estate modelling technique is shown in Table 28.1. They are put under the categorization of a regression or classification modelling technique. Meanwhile, Sects. 28.2.1 to 28.2.16 discuss every modelling technique that is listed in Table 28.1.

Table 28.1 Previous studies on real estate modelling technique

Author	Modelling technique	
	Regression	Classification
Ong (2013), Mihaljek (2007), Burinskien (2011)		ANN
Candas et al. (2015), Nejad and Lu (2017), Pagourtzi et al. (2003)	HPM	
Sabina and Trojanek (2014), Chaphalkar and Sandbhor (2013), Rahman et al. (2019)	FLS	
Núñez Tabales et al. (2013), Sasaki and Yamamoto (2018), Sarip and Hafez (2015)	SVM	SVM
Kuşan et al. (2010), Giudice et al. (2017), Chen et al. (2017)	LR	
Lin and Chen (2011), Mu et al. (2014), Borde et al. (2017), Dimopoulos et al. (2018)	DT	DT
Kuşan et al. (2010), Wezel and Potharst (2005a), Shinde and Gawande (2018)	RF	
Wezel and Potharst (2005b), Ma et al. (2018), Baldominos et al. (2018)		KNN
Wezel and Potharst (2005b), Lee et al. (2018)	PLS	
Valle (2017)		NB
Oladunni and Sharma (2016), Baldominos et al. (2018), García-Magariño et al. (2019)	MRA	
Čeh et al. (2018), Yu and Wu (2016), Yusof and Ismail (2012), Wu (2018)	SA	
Borde et al. (2017), Ozgur et al. (2016), Zhang et al. (2018)	GB	GB
Lin and Chen (2011), Yalpir and Unel (2017), Julia Zmolnig (2015)	LASSO	
Yalpir and Unel (2017), Dejniak (2018)	Ridge	
Yang and Cao (2018), Neloy et al. (2019)	Ensemble	Ensemble

28.2.1 Use of ANN Model

The ANN is a machine learning (ML) model that is originally designed to replicate the human brain's learning (Soni and Sadiq 2015). ANN model has already been used in property pricing matter (Chiarazzo et al. 2014) which is a study on classification and forecast matters (Paireekreng and Choensawat 2015). ANN model is also being widely implemented in other different research areas such as sciences and businesses (Lee et al. 2018; Paliwal and Kumar 2009). This modelling technique is a highly promising model and efficient for property pricing appraisal research (Chaphalkar and Sandbhor 2013; Rahman et al. 2019; Núñez Tabales et al. 2013). ANN can be used to predict the price of the properties price but only after one takes into consideration both variable and independent variable involved (Chiarazzo et al. 2014). This review shows that this model technique has been implemented for property price research and it has also been widely utilized in other industries involving science and business.

28.2.2 Use of HPM Model

The HPM model is basically a regression equation that is estimated with the help of regression analysis. This model works based on the assumption that goods are heterogeneous, and each property is described as the sum of its individual properties: this model was first applied by Lancaster (1966) (Fregonara et al. 2012). Furthermore, the HPM model was studied by Bruce and Sundell (1977) (Touzani et al. 2018) who claimed that the HPM was already used in real estate appraisal before 1954, between 1954 and 1964, as well as between 1964 and 1977. The demand during the study duration of this model technique had seen it being practiced in a few classes of real estate properties, such as urban bare land, rural bare land, multiple-family residences and single-family residences. Together with other researches, this model is flexible enough to be adapted in relationships among the IV and DV factors. It was noted that most results generated by using this model were reliable and accurate (Lu et al. 2018). Furthermore, a lot of previous research using HPM modelling technique compared it with other models, which focused on properties pricing markets in America, the West and Europe in particular. A few tests were conducted in the East, such as in Japan (Candas et al. 2015), Hong Kong (Nejad and Lu 2017) and Taiwan (Pagourtzi et al. 2003).

28.2.3 Use of FLS Model

The FLS is designed to mimic the function of human brain in making decision by considering all quantitative and qualitative data to produce the best possible decision (output) based on the given input factor. This model is already used in price prediction of properties (Chaphalkar and Sandbhor 2013). FLS model can address the problem of real estate price prediction since it is more accurate in modelling the relationship between the IV and DV (Sabina and Trojanek 2014; Chaphalkar and Sandbhor 2013; Rahman et al. 2019). In fact, this model is also widely being implemented in other different researches too.

The FLS article was published between 1994 and 2014: it showed the review made, which stated that majority of this technique was being implemented in the management and business, engineering, science and technology, conflict resolution, economic and planning, manufacturing, accounting and auditing, politics and environment marketing and education, in their respective research fields (Xin and Khalid 2018; Manjula et al. 2017). To summarize, FLS modelling was widely used by previous researchers by adopting this technique for variable selections of studies. However, it was not widely implemented in real estate aspects compared to HPM and ANN models.

28.2.4 SVM Model

SVM, also known as LSSVM model, is one of the models that can learn the input–output functionality from existing samples and is able to map the special dynamic into a high-dimensional feature space which can recognize pattern and analyse data. SVM analyses data used for classification and regression analysis, and this model is already being implemented in real estate price prediction cases (Núñez Tabales et al. 2013; Sasaki and Yamamoto 2018; Sarip and Hafez 2015). The SVM model can reduce the bias or problem in forecasting the property price, as it also provides a better generalization in result after considering IV and DV like FLS model (Sarip and Hafez 2015). Meanwhile, SVM also produces the best result in predicting the real estate price compared to ANN, PLS and LSSVM models (Sasaki and Yamamoto 2018; Sarip and Hafez 2015).

To summarize, the SVM is one of the best machine learning algorithms, which was proposed in 1990s and used mostly for pattern recognition. This model has also been applied to many pattern classification problems such as image recognition, speech recognition, text categorization, face detection and faulty card detection. Pattern recognition aims to classify data based on either a prior knowledge or statistical information extracted from raw data, which is a powerful tool in data separation in many disciplines (Yang and Cao 2018).

28.2.5 Use of LR Model

The LR model is ML model. It is suitable to be implemented as a tool in real estate modelling due to its less complex implementation. Nevertheless, the degree of error is slightly above the average (Kuşan et al. 2010). LR is one of the well-known models and is also known as ordinary least square (OLS) consisting of two types, namely single linear regression (SLR) and multiple linear regression (MLR). The SLR model is characterized by one IV; meanwhile, the MLR is characterized by more than one IV. The LR model is used to estimate real estate value based on IV (property feature) and DV (property price) (Kuşan et al. 2010; Giudice et al. 2017; Chen et al. 2017). However, previous research shows that FR model is often found to produce less error in result compared to LR when the study relates to price prediction in real estate (Kuşan et al. 2010; Giudice et al. 2017; Chen et al. 2017). In actual fact, the LR model can be implemented in predicting the value of real estate but the other models like RF, DT and SVM models have performed better compared to the LR model.

28.2.6 Use of DT Model

A recent work established that DT is a type of supervised ML that has many analogies in life. It turns out that it has influenced a wide area of studies including the real estate industry. The DT models are trees that classify instances by sorting them based on feature value. Each node in a decision tree represents a feature to be classified, and each branch represents a value that a node can be assumed (Neloy et al. 2019).

This model enables the researcher to predict the output with most stability, accuracy and less error. It is used to predict any problems such as classification or regression, which produces a prediction model in the form of an ensemble of weak prediction model (Soni and Sadiq 2015). In particular, the DT model is mostly being used to indicate problems in predicting the price of a real estate modelling for decision-making (Lin and Chen 2011; Mu et al. 2014; Borde et al. 2017; Dimopoulos et al. 2018).

Previous researches usually show the DT model dataset, and it has provided the highest accuracy, which is beneficial for results, compared to the other models like lasso, LR and SVM (Lin and Chen 2011), and the DT model has no problems approximating linear relationships compared to the LR model (Mu et al. 2014; Borde et al. 2017). In short, the DT model performed well when the matters are related to prediction and the DT model does not have problems in approximating the linear relationship based on IV and DV factors.

28.2.7 Use of RF Model

RF model is one of the most popular and powerful supervised MLs that can perform both regression and classification tasks. It is also known as the regression forests, and this model is usually being used to deal with the problems of predicting the price of housing, price analysis and decision-making aspects of real estate (Kuşan et al. 2010; Wezel and Potharst 2005a; Shinde and Gawande 2018). The RF model can create forest with several decision trees. In general, the more the trees in the forest, the more robust the prediction, and thus it provides higher accuracy to model multiple decision trees to create the forest (Chiarazzo et al. 2014; Paireekreng and Choensawat 2015). The RF model will create many decision trees on reboot training samples and randomly select the feature and observation to build several decision trees and choose the best average result (Lee et al. 2018).

In previous research, the findings show that RF model usually has better performance than deep neural network model (DNN), and the RF model is found to have less error than the other LR and KNN models when the matter is related with property price prediction (Kuşan et al. 2010; Wezel and Potharst 2005a; Shinde and Gawande 2018). To conclude, the RF model is efficient to be implemented in predicting property price.

28.2.8 Use of KNN Model

The KNN model can be defined as a simple model that stores all available cases and classifies the cases based on similarity measure (distance function): KNN has been used in pattern recognition and statistical estimation in the beginning of 1970s as a non-parametric technique (Paliwal and Kumar 2009). KNN usually performs the classification tasks if they are related with real estate matters (Wezel and Potharst 2005b; Ma et al. 2018; Baldominos et al. 2018).

This model is already being implemented in dealing with the problem of economic concept to improve the pricing that will benefit buyers, banks and professional real estate investor (Wezel and Potharst 2005b). Moreover, another problem is found in the fluctuation of prices due to existing correlation with variables that cannot be controlled or even unknown (opportunity for investment) (Ma et al. 2018). It is also a model to use when facing problems that are related to estimation of missing prices in real estate market using agent-based simulations (Baldominos et al. 2018).

The result from previous research stated that the KNN model can drive significant variation in the performance, based on dataset provided (Ma et al. 2018). Some of the studies showed that KNN model obtained higher performance compared to other models such as LR, SVR and RF models (Baldominos et al. 2018). In addition, PCR model performs slightly better than KNN when implementing the hedonic housing theory (Wezel and Potharst 2005b). This model is suitable to solve the problem that relates to classification.

28.2.9 Use of PLS Model

PLS is a statistical method that has some relation with principal component regression (PCR) or principal component analysis (PCA), which responds between IV and DV. It finds a linear regression model by analysing the x and y variables. The PLS model is also known as bilinear factor model designed to deal with multiple regressions when data has a small sample, multicollinearity or missing value (Gizem and Yesim 2018). This model is also being implemented in case studies that are related to price prediction for apartment and real estate investment (Wezel and Potharst 2005b; Lee et al. 2018). This model was very popular in hard science such as chemometrics and chemistry which deal with a big problem with high number of correlated variable and a limited number of observations (Gizem and Yesim 2018).

Previous researches show that PCR performs slightly better than KNN and SVR models when the hedonic housing theory in investment of real estate is implemented (Wezel and Potharst 2005b), and the researchers discovered a relatively high rate of equivalent relationships under PCAs compared to RF model to predict price of apartment (Lee et al. 2018). To emphasize, this model is suitable to be implemented when faced with problems that are related to regression matter.

28.2.10 Use of NB Model

The NB model can be defined as a simple probabilistic classifier that describes the probability of a set of outcomes based on knowledge of conditions that might be related to the event (Abidoeye and Chan 2017), and this model was introduced by Pearl in 1988 (Sirmans 2005). An example of function is, if the age of building is related to selling price of properties, then by using the NB model a building age can be used to ensure the probability that price of building will increase based on age factor. This can be compared with the assessment of building selling price probability which is made without knowledge of building age.

Previous research shows that this model was implemented to predict the house price after considering a few interests for both sellers and buyers. Result shows that the NB model has significant improvement compared to the RF model. This is true when it is related to the aspect of classification problem (Valle 2017). This model is widely being implemented in other industries such as software industry (Wing et al. 2003), fault diagnosis (Chen and Rothschild 2010) and telecommunication sector (Mardani et al. 2015) compared to real estate.

28.2.11 Use of MRA Model

The MRA model was introduced by Pearson in 1908. This model taught researchers about the relationship between several IV and DV (Zahedi 1986). For example, estate agent might prepare a record for each listing such as size of the property, age of the building, number of bedrooms and a subjective rating of appeal of the property. When this information is compiled for various properties, it would be interesting to see how these IV (Feature of Property) is related to the DV (Selling Price) and to determine which feature contributes to the sale of a property (Baldominos et al. 2018).

Previous research indicated that this model is widely being implemented in real estate industry such as to make decision in real estate investment, find house prices based on internet open access data and predict the price of real estate property (Oladunni and Sharma 2016; Baldominos et al. 2018; García-Magariño et al. 2019).

The result stated that the MRA model is good for the application of mathematical tool to aid analysis regarding decision-making in property investment and to predict the price of property (Oladunni and Sharma 2016; García-Magariño et al. 2019). Even though this model is suitable to be implemented in real estate industry, it functions under conventional method. Today, the other models are more advanced compared to MLR model.

28.2.12 Use of SA Model

The SA model is defined as an analytical technique to determine the spatial distribution of variable. It refers to the relationship between the spatial distribution of variable and the association of the variable of an area (Pradhan 2017). This model usually refers to the analysis of phenomena distributed in space that has physical dimension such as the proximity to and the location of area (Pradhan 2017).

Previous research about this model found that it has been already implemented in real estate studies. However, for certain studies such as land appraisal under geographic information system (GIS)-based SA model (Čeh et al. 2018), it is suitable for property price prediction (Yu and Wu 2016; Yusof and Ismail 2012; Wu 2018) and GIS-based SA of housing price, as well as road density in proximity to urban lake (Ikonomovska 2012).

In addition, majority of the results generated have shown that the SA model was appropriate for the analyses of the spatial distribution of variable involved, in predicting the property price (Yu and Wu 2016; Yusof and Ismail 2012; Wu 2018) and also appropriate for studies that deal with the analyses involving GIS-based SA model. A reviewer realized that this model was suitable for implementation in real estate study but was useful only in certain studies that have a physical dimension.

28.2.13 Use of GB Model

The GB model is defined as one of the ML techniques for classification and regression problem, and produces a prediction model by converting weak learners into strong learners, typically as found in DT. This model was introduced by Friedman in 2001 (Ozgun et al. 2016). The GB model process is also known as stage wise. Stage wise is defined at the point where in each new step the DT is added to the model at prior steps that are not modified. It was only fitting DT to the residuals, and the model is improved in the regions where it does not perform well. Furthermore, the GB model is a powerful ML model that is gaining considerable traction in a wide range of data-driven applications, such as biology, ecology and computer vision (Ozgun et al. 2016). This model is also being used in real estate industry.

Previous research shows that this model was being used for research in energy consumption of commercial building, and the result stated that the GB model generated more accurate result compared to another model which is known as the time-of-week-and-temperature (TOWT) (Ozgun et al. 2016). Meanwhile, the use of this model in predicting the house market price has shown that house price market is being measured accurately using GB model (Zhang et al. 2018). Another study regarding the estimation of warehouse rental price using GB model stated that GB model has provided better performance than the LR model. However, the RF model gave the best performance in estimating rental (Borde et al. 2017). To summarize, the GB model is suitable for both classification and regression problems.

28.2.14 Use of Lasso Regression Mode

Lasso model is an ML tool that is suitable to be implemented as a model in real estate modelling technique. It was introduced by Robert Tibshirani in 1996 (Cutler et al. 2014). The lasso model is known as least ‘absolute selection’ and ‘shrinkage operator’. This regression analysis model can perform both regularizations and variable selection in order to enhance the prediction in terms of more interpretability and accuracy of the statistical model it produces. It can be implemented with the dataset that has many features like real estate feature dataset. In order to avoid overfitting during a model performance, lasso regression will perform L1 in regularization stated in the formula. The consequence of L1 regularization is that when using the lasso model, some coefficients are exactly zero. This means some features are entirely ignored by the model. This is taken as a form of automatic feature selection. Having some coefficients at exactly zero often makes a model easier to interpret and can reveal the most important features of the model (Yalpir and Unel 2017).

Previous research indicated that this model was used for valuation of house price prediction, and the result by lasso model gives the least accuracy, which is lower than LR, DT and SVM models. This means the result is excellent (Lin and Chen 2011). Meanwhile, some researches show that the lasso model performed better than ridge regression model when a matter is dealt with multicollinearity on modelling house price prediction (Julia Zmolnig 2015). In another study regarding modelling technique for property price prediction, the finding showed that the hybrid regression (HR) model performed better than the lasso regression, ridge regression and GB models (Yalpir and Unel 2017). Hence, the lasso model is very useful for feature selection, and it has another benefit of removing useless features in this case study.

28.2.15 Use of Ridge Regression Model

Ridge model is an ML tool acknowledged as modifying the least squares method (LSM) to enable it to have biased estimators of the regression coefficients in the regression model. This means that it does not consider which independent variable is more important than the others. This model is suitable to be implemented in case studies with large number of features like real estate feature dataset. In order to avoid overfitting, ridge regression performed L2 regularization stated in the formula compared with lasso regression that used L1 regularization.

Previous research conducted by using this model in real estate industry showed that the ridge regression model did not perform well as the lasso regression model when a matter is dealt with multicollinearity on modelling house price (Julia Zmolnig 2015). Meanwhile, in a study of modelling technique for property price prediction, the finding shows that the hybrid regression (HR) model performed better than the ridge, lasso and GB models (Yalpir and Unel 2017). In another research regarding real estate value prediction using multiple models, it is found that the lasso model

can overfit their model dataset using ridge model (Dejniak 2018). To summarize, a ridge model is very useful for feature selection, and it has another benefit which is to remove useless features in their dataset like lasso model (Yalpir and Unel 2017).

28.2.16 Use of Ensemble Model

The ensemble model typically refers to the model that generates several models by combining it to make a prediction, either in regression or classification problem. This means that this model was incorporated with various predictors (Gulati 2016). It is defined as a process that uses a set of models: each of them is obtained by applying a learning process to a given problem. This set of models is integrated in some way to obtain the final prediction (Komagome-towne 2016).

Previous research in the study of house price prediction using ensemble model stated that this model can improve the predicting stability and accuracy compared to the RF, DT, gradient boosting decision tree (GBDT) and XGBoost (XGBT) XGB model (Gulati 2016). Meanwhile, a study on rental apartment prediction stated that the ensemble model can produce more accurate prediction than SVM model when the matter is in classification feature factor (Taneja et al. 2016). This model has been the model of a significant amount of research in recent years, and usually it has produced better results in its performance when it is related to classification problem compared to the regression model.

28.3 Study on the Advantages and Disadvantages of Each Model

Table 28.2 explained the advantages and disadvantages of every model that is discussed in Sect. 28.2 after an analysis of each model in real estate aspect is completed.

28.4 Recommendation on Suggested Modelling Technique Used in Real Estate Modelling

The reviewer has done some studies based on findings by the other researchers. Analysis of the modelling technique was completed, and all information was gathered and explained in Sect. 28.2. Advantages and disadvantages of these models are discussed in Sect. 28.3. Based on the findings, the real estate modelling technique indicated that the model technique is often implemented in cases related to regression and classification problem in real estate modelling. Therefore, the reviewer recommended

Table 28.2 Advantages and disadvantages of the model

Model	Advantages	Disadvantages
ANN	Able to simulate the nonlinear function and has strong expansibility and evolutionary ability	Low accuracy and convergence speed are not very ideal
HPM	The model is flexible enough to be adapted to relationships among other market goods and external factor	Its ability to only capture consumers' willingness to pay for what they perceive as environmental differences and their resulting consequences
FLS	An alternative to the traditional probability-based model for property assessment and could reduce uncertainty to a limited extent	It sets output but neglecting some relevant real estate risk factors
SVM	Mainly solving classification and regression problems. Meanwhile, for the linear undivided sample data, SVM mapped the samples to a high-dimensional space to make them linear separable. Also, good in solving a high-dimensional problem due to the SVM that does not need to use all of the samples in dealing with problems and only those support vectors are needed	SVM can find the global optimal solution. But when the samples are a lot, it leads to a higher complexity
LR	Makes strong assumptions about the structure of the data and establishes a relationship between target output and one or more input variables using a best fit straight line	Hold single predictive formula over the data and a regression tree breaks global model into local model using recursive partitioning and multiple regressions
DT	Simple to understand, interpret and visualize, decision trees implicitly perform variable screening or feature selection, it can handle both numerical and categorical data and can handle multi-output problem, decision trees require relatively little effort from the user for data preparation	Can create over complex tree that do not generalize the data well, this is also known as overfitting and that can lead to unstable result because small variation in the data might result in a completely different result
RF	Very good at handling tabular data with numerical features. High accuracy among current algorithms, efficiency on large data set and need for scaling or other pre-processing. Have ability to handle high-dimensional input variables and missing data	Data are randomly chosen to establish each tree and features are randomly selected in each split test as well
KNN	The measurement of attribute differences between a property and its neighbours to arrive at a more precise estimation of house value	Need to consider assets like the one that researcher wants to predict. It can be problematic when dealing with high-dimensional data with binary attributes

(continued)

Table 28.2 (continued)

Model	Advantages	Disadvantages
PLS	Good in solving the problem of multiple variables, especially when all sample variables exhibit serious internal correlations	Test statistics might be unreliable when the data is not normally distributed (but with many datapoints that problem gets mitigated), tendency to overfit data
NB	Very easy for implementing the model and easy to understand. Meanwhile, in estimating the parameters they only need a very few amounts of training data	Chance of loss of accuracy. NB model classifier cannot modify dependencies because dependencies exist between variables
MRA	Makes possible the coefficient estimates and possible factor weightings using a large number of realized sales	No exact linear relationship between independent variables. If more variables are correlated, the parameter calculation could be problematic or even impossible
SA	Can represent rich geospatial attributes in a condensed manner that's semantically easier to understand and reason about	It is hard to run query on. Especially certain join queries that require many geospatial measurement or operation for join condition
GB	Can be used to solve almost all objective function that under the gradient out. This including things like ranking and position regression, which RF is harder to achieve	More sensitive to overfitting if the data is noisy and the training generally takes longer because of the fact that trees are built sequentially
Lasso	Good for eliminating trivial genes	Not good for grouped selection
Ridge	Multicollinearity, biased but smaller variance and smaller Mean Squared Error (MSE), Good for group selection, also explicit solution	Shrink coefficient to zero but cannot produce a parsimonious model, not good for eliminating trivial genes
Ensemble	Respect to single model that has been reported in terms of increasing accuracy and robustness	Sensitive to noise and outliers

some models that are suitable to be used in real estate based on relevant problems which have arisen. The most frequently used model for regression problem is HPM, FLS, SVM, LR, DT, RF, PLS, MRA, SA, GB, lasso, ridge and ensemble models. Meanwhile, for classifications problem, models, namely the ANN, SVM, DT, KNN, NB, GB and ensemble, are used.

In Sects. 28.4.1 and 28.4.2, the reviewer will offer advice on the modelling technique that can generate accurate result for problems identified under the regression and classification categories.

28.4.1 The Modelling Technique for House Price Prediction Using Regression

The reviewer acknowledged and recommended that the SVM, DT, RF, PCR, MRA, GB, lasso, ridge and ensemble are highly promising models and efficient to use for house price prediction study when a matter related with regressions problem was placed between the IV (property feature) and DV (property price). Meanwhile, the LR model can be implemented in predicting value of real estate. However, the other model explained earlier has performed better compared to the LR model.

Furthermore, HPM is another famous model and it is already used in real estate industry since 1954. Most of the results generated by this model are good—a testimony of its performance. Nevertheless, one has to understand that this modelling technique is from a conventional model and the reviewer would like to suggest the other model that has advanced performance features. This is because other models that can perform better produced accurate result. Moreover, even FLS model can also address the problem of predicting real estate price in order to generate more accurate result in the relationship between the IV (property feature) and the DV (property price). However, most previous researches show that this model is widely being implemented in other industries compared to the real estate industry. Subsequently, the SA model is also being used in real estate study to predict the property price. This model is more suitable in cases related to the analysis of phenomenon distributed in space that has physical dimensions such as the proximity, location and matter that required the use of GIS software. To conclude, the reviewer would like to suggest all the models explained before, to be implemented in dealing with matters pertaining to regression problem. Are the other researcher used all the models suggest they must be aware of the objective of their case study and understand the function of model before implementing the model suggested.

28.4.2 Modelling Technique for House Price Prediction Using Classification Model

The reviewer acknowledges and recommends ANN, SVM, DT, NB and ELM models as highly promising models and efficient for property price prediction study when the issue is related with classification problem between the IV (property feature) and the DV (property price), compared to KNN model. The KNN model would perform efficiently when this model is combined with hedonic price theory. Moreover, it is also suitable for cases related to econometric concepts like to improve the pricing that will benefit buyer, banks, investor and real estate professional. To conclude, the reviewer suggests all the models discussed can be implemented in solving the classification problem. Nevertheless, researchers should be aware of the objective of the case study if they want to implement the model suggested since every model has its own advantages and disadvantages.

28.5 Conclusion and Recommendation on Model Technique for Real Estate Price Prediction

This review highlights suitable modelling techniques for property price prediction and factors that should be considered before implementing them in order to predict the price of the house. Based on the review of previous research of the other models that are already implemented in real estate case study, one must take the reports into consideration. The way to choose suitable model must be based on the best result performance from a modelling technique, the advantages and disadvantage of the modelling technique, the objective of the case study and the matters that need to be solved by the researcher. As recommendations, the models that are usually being used for regression problem are HPM, FLS, SVM, LR, DT, RF, PLS, MRA, SA, GB, lasso, ridge and ensemble models. Meanwhile, for classification problem, the previous research applied ANN, SVM, DT, KNN, NB, GB and ensemble models. This review will help the researcher, especially those who want to implement the modelling technique in their research which is related to real estate modelling. This is necessary to ensure that they can choose the most suitable model that can be utilized in their case study.

Other recommendations for further research could be suggested from the abstracted review. First, the machine model used in overall real estate study is divided into two problems which are regression and classification: these could be used in the invention of most modelling technique. Still, all model techniques need to be considered based on the objective of the case study.

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Chapter 29

ASEAN's Rohingya Dilemma: Limits of Regional Co-operation



Rubiat Saimum

Abstract Since its foundation in 1967, the member states of ASEAN have established co-operation mechanisms in a number of sectors, ranging from trade to environmental protection. ASEAN has been highly successful in achieving co-operation in trade and commercial issues. However, it has been unable to achieve similar level of co-operation in political and humanitarian issues. For instance, the ASEAN has failed to deliver a unified response against the human rights violations of Rohingya people in Myanmar. Though the declaration of 34th ASEAN Summit in 2019 calls for 'safety and security for all communities in Rakhine state' and facilitation of the 'voluntary return of displaced persons in a safe, secure and dignified manner', it failed to mention a timeline of such repatriation process. Moreover, the declaration did not criticize the actions of Myanmar's military in the Rakhine state. This study offers a critique of ASEAN's traditional approach of diplomacy known as 'ASEAN Way'. Examining a set of relevant issues, the study seeks to outline the legal, institutional and political factors which prevented a unified ASEAN response to the Rohingya crisis. Through a qualitative analysis, it concludes with an observation that the failure to develop an institutional mechanism to deal with political and human rights issues in South-East Asia could hinder ASEAN's objective of becoming a more integrated 'European Union'-like community.

Keywords ASEAN · Myanmar · Rohingya crisis · Regional co-operation

29.1 Introduction

Association of South-East Asian Nations (ASEAN) is regarded as one of the most important inter-governmental organizations in the global south. The organization was formed in 1967 to support intra-regional co-operation among the South-East Asian countries. Since formation, the organization has promoted co-operation in trade, security, education, etc. The ASEAN states, despite disagreements on many issues, have achieved a high degree of intra-regional economic integration. The intra-regional

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trade now stands at 24% of total ASEAN trade volume. Moreover, the organization has successfully eliminated 99.6% of all intra-ASEAN tariffs and pledged to pursue even greater regional integration under the purview of the ASEAN Economic Community (AEC) blueprint 2025 (ASEAN 2017).

Though ASEAN has achieved an apparent success in the arena of economic co-operation, its record on humanitarian and political issues are not so promising. In regard to the Rohingya refugee crisis, it has failed to take effective measures to prevent the ‘ethnic cleansing’ of the Rohingya minorities in Myanmar. Despite global outrage and ‘urge for action’, ASEAN leadership did not hold Myanmar accountable for its treatment of Rohingya people. Even though ASEAN has initiated dialogue and co-operation with Myanmar on the issue of refugee influx, it did little to change Naypyidaw’s policy towards the Rohingya people. Several ASEAN countries, such as Malaysia and Indonesia, have pursued a more pro-active role in the crisis. However, their efforts were unsuccessful due to the lack of consensus among the ASEAN stakeholders.

Three factors need to be analysed to understand ASEAN’s apparent inability to take strong measures against Myanmar. First, from a legal point of view, ‘non-interference’ principle, enshrined in Article 2(e) of the ASEAN charter, has been a core feature of intra-ASEAN relations. Hence, the centrality of ‘non-interference’ and ‘state sovereignty’ in ASEAN doctrine has made it legally difficult for ASEAN leadership to take strong measures against Myanmar’s human rights abuses.

Second, ‘consensus building’ has been the core ‘modus operandi’ of ASEAN’s diplomacy. The decision-making process of the organization is mainly driven by consultation and dialogue. But such a process has made the organization’s ‘conflict management’ mechanism slow and ineffective. In the context of the Rohingya crisis, the member states have not been able to reach a consensus on how to approach the Myanmar government on the issue.

Third, ASEAN has not been able to set up an ‘institutional framework’ to deal with the issues of human rights violations and refugee rights. Historically, the organization has prioritized the economic issues over humanitarian ones. However, the organization had addressed the human rights issue through the ASEAN Intergovernmental Commission on Human Rights (AICHR). But the commission lacks a legal mandate to implement necessary measures.

By analysing the three aforementioned factors, the study seeks to explore the legal, political and institutional limitations of ASEAN in dealing with the Rohingya refugee crisis.

29.2 Background of the Rohingya Crisis

The Rohingya people are an ethnic minority group of Muslim faith from Myanmar’s Rakhine state. Since the Independence of Myanmar, the Rohingya people have faced intense persecution in the hands of Myanmar’s state apparatuses. Officially, Myanmar recognizes 135 ethnic groups as ‘indigenous races of the country’. However,

Rohingyas are not recognized as one of the 'National races'. The Myanmar government refuses to acknowledge the term 'Rohingya'; instead, it prefers the term 'Bengali' to characterize the Muslims of northern Rakhine state (Cheesman 2017). Many historical and political factors are responsible for the current situation. But it was the Citizenship law of 1982 that rendered the Rohingyas 'stateless'. The law only recognizes the 'ethnic groups' who have been residing in the country before 1823. The Rohingyas, according to Myanmar's state-sanctioned historical narrative, are Bengali Muslims who migrated from British India after the Anglo-Burmese war in 1824 (Haque 2017).

However, there are many historical pieces of evidence to support the claims of Rohingya's presence in Myanmar before 1823. For example, Azeem Ibrahim, studying historical records, stressed that the Rohingyas could be the earliest Indian settlers in the region, even before the arrival of Buddhist Rakhines in Arakan, now known as Rakhine state. He also mentioned the historical accounts of Francis Buchanan who in 1799 referred to the local Muslims of Arakan as 'Rooinga' (Ibrahim 2018). Many historians believe that the name 'Rohingya' is derived from the term 'Roshang', the ancient name of the Rakhine state which suggests the indigenesness of the Rohingyas. Bengali and Rakhine chronicles also show a close cultural link between Arakan and Bengal in ancient times, which is supported by the fact that Bengali literature was widely practiced in the Arakan's Royal court in Middle Ages (Haque 2017). Given the fluid nature of the border between Bengal and Arakan, people could freely move across the regions in ancient times which partly explains the presence of a large Rakhine population in south-eastern Bangladesh and Muslim Rohingya presence in Rakhine state.

The statelessness of the Rohingyas has opened the door for their political marginalization. Since 1948, the Rohingyas have faced severe state-backed oppression in different phases. The first phase of violence occurred in 1978 when the Myanmar military drove over 200,000 Rohingyas into Bangladesh. The Rohingyas were again driven out in 1991–92 period by the military government of State Law and Order Restoration Council (SLORC) (Ullah 2011). The latest round of violence in Rakhine state took place after Rohingya militants attacked Myanmar security forces in three posts along the Bangladesh–Myanmar border in August 2017. In response, the Myanmar army launched a military operation that triggered a fresh refugee influx into Bangladesh (Albert and Chatzky 2018). According to the United Nations High Commissioner for Refugees (UNHCR), since 2017, more than seven hundred thousand Rohingya refugees have arrived in Bangladesh from Myanmar. Based on reports of widespread human rights violations, the United Nations has labelled Myanmar's actions in Rakhine state as a 'textbook example of ethnic cleansing' (Safi 2017). However, global condemnation and Western sanctions have brought no meaningful change in Myanmar's policy towards the minority group, partly due to the indifference of regional actors to the humanitarian situation in the Rakhine state. Moreover, Myanmar has been able to secure the support of its two large neighbours, namely, India and China on the Rohingya issue. China especially has been aggressively promoting Naypyidaw's interests in the United Nations Security Council (UNSC) by blocking the path for a practical resolution of the Rohingya crisis.

29.3 ASEAN's Response to the Rohingya Crisis

Myanmar's atrocities against Rohingyas have created a debate on the effectiveness of ASEAN's diplomacy and conflict management mechanism. Contrary to global expectations, the ASEAN leaders have failed to hold Myanmar accountable for the human rights violations against the Rohingya Muslims. Though ASEAN has put forward a joint statement on the Rohingya crisis during the 34th annual summit, it was vague and inadvertent. The joint statement reiterated the points of past ASEAN statements with no clear framework for resolving the crisis. It even failed to mention the term 'Rohingya' to characterize the stateless Muslims of Rakhine state (Barber 2019). The organization has also shown a lack of interest in engaging in the refugee repatriation process directly. Instead, it has called on Bangladesh and Myanmar to work towards a timeline for refugee repatriation without committing any involvement in the process.

ASEAN has been accused of ignoring the political realities of the Rakhine state. On June 2019, a report titled 'ASEAN Preliminary Needs Assessment for Repatriation in Rakhine State' leaked to the media. The report estimated that the repatriation of Rohingya refugees to Myanmar would be completed within 2 years. Many commentators have cast doubt on the assessment of the report as it portrays Myanmar's efforts in an overly positive light while ignoring the situation on the ground. Amnesty International dismissed the report for failing to mention the 'military atrocities' by Myanmar military that initiated the refugee exodus (Kit 2019). Human rights watch (HRW), on the other hand, accused ASEAN of disregarding the 'root causes' of the problem which need to be addressed before the safe return of the refugees (Human Rights Watch 2019).

Despite falling short of its responsibilities, many have defended ASEAN's efforts vis-à-vis the Rohingya crisis. They argue that ASEAN simply does not possess the resource or the mandate to change the course of a member state's policy. Such line of argumentation reinforces the idea of legal, political and institutional limitations of the organization.

29.4 Intra-ASEAN Co-operation on the Refugee Issue

Many policymakers in South-East Asia have long espoused the 'ASEAN Way' as the organization's primary diplomatic approach. Based on twin principles of consultation and consensus building, the approach has been in the heart of regional security co-operation among the ASEAN states. While the approach, in theory, could ensure a peaceful regional order, its applicability in an actual crisis is questionable as it is difficult for member states to balance national security interests within a multilateral framework. In the case of ASEAN, 'national interest' has been the key driving force for regional co-operation. The ASEAN states generally co-operate in a wide range of

trade and economic-related issues because they see tangible benefits in such arrangements. However, ASEAN's economic co-operation did not translate into a full-scale security co-operation as it would require delegating at least some national security functions of the state to a supranational body. While consensus and consultation as diplomatic tactics may be viable for economy and trade-related negotiations, it may not yield the same level of success in a humanitarian crisis situation, because in cases of internal humanitarian crisis, the states, in order to find resolution, have to compromise on 'fundamental national interests' such as sovereignty and territorial integrity (Acharya 1997). In Myanmar's perception, the Rohingya issue is tied to its sovereignty, citizenship and territorial integrity. At first, it showed reluctance to discuss the issue in a multilateral platform such as ASEAN. But growing international pressure has pushed Myanmar towards greater co-operation with ASEAN on the Rohingya issue. Such co-operation in Naypyidaw's view could boost its international credibility without compromising its position on the Rohingya issue.

Moreover, South-East Asia has not experienced a refugee influx in the scale of the Rohingya crisis since the Vietnam War. Even in the Vietnam War, the nature of the crisis was significantly different from the Rohingya crisis. Besides, even within ASEAN, not all the member states have a similar perception of the Rohingya issue since it has been regarded as a 'domestic matter' of Myanmar. Hence, the major challenge for ASEAN is to formulate a 'balanced response' that can accommodate the diverse viewpoints within the community. While a 'balanced response' may preserve unity within the ASEAN community, it may not be an appropriate approach to resolving the crisis.

There are concerns that pressurizing Myanmar on the Rohingya issue could push Naypyidaw more into Beijing's orbit of influence as China has been the core supporter of Myanmar in international arena. Such scenario could dilute ASEAN consensus in regards to China on contentious bilateral issues like South China Sea. Besides, the Rohingya crisis has exposed the internal power struggle between Myanmar military and the Suu Kyi-led government of National League for Democracy. Both sides are trying to garner the support of the Burman Buddhist majority by taking anti-Rohingya stance (Saimum 2019). Thus, ASEAN's strong pro-Rohingya issue might erode the organization's legitimacy among the country's general public.

However, there are several security, political and economic implications of keeping the Rohingya issue unresolved. The transnational terrorist groups operating in the region could potentially radicalize vulnerable Rohingyas. Besides, the crisis could jeopardize the 'democratization' of Myanmar and hinder the economic progress of the country (Lego 2017). Thus, the continuous involvement of ASEAN in resolving the issue is vital for the peace, prosperity and security of entire South-East Asia.

29.5 Legal, Institutional and Political Limitations of ASEAN vis-à-vis Rohingya Crisis

The biggest obstacle towards a greater ASEAN involvement on the Rohingya issue comes from the organization's guiding principle of 'non-interference'. The 'non-interference' clause enshrined in article 2 of the ASEAN charter calls upon the member states to respect 'the independence, sovereignty, equality, territorial integrity and national identity' of all ASEAN nations. Similarly, it promotes the notion of 'peaceful settlement of disputes' and forbids the 'use of force' in regional disputes. The policy of 'non-interference' largely derives from the customary international laws firmly entrenched in the UN charter (Goh 2000). However, unlike the United Nations, ASEAN does not adhere to an institutionalized notion of 'collective security'. Instead, it defines regional security in terms of 'co-operative security' that relies on 'consultations' and common 'cultural norms' rather than on strict legal framework (Leifer 1999). In sum, the aim of ASEAN's 'conflict management' mechanism is to negotiate settlements without breaching the sanctity of national sovereignty. However, ASEAN had contributed to the resolution of regional conflicts through diplomatic and political means in the past. After the Vietnamese invasion of Cambodia in 1978, ASEAN played a pro-active role in supporting the Coalition Government of Democratic Kampuchea against Vietnamese occupation. ASEAN with the support of the United Nations, European Community, Japan and the United States played a decisive role in pursuing a Vietnamese withdrawal from Cambodia (Alagappa 1993). But in the Cambodian case, ASEAN's role was rationalized in the context of a broader international involvement. Moreover, South-East Asian nations had a strong collective incentive to contain the communist threat in Indo-China after the Vietnam War. But the situation in Myanmar is different from the Cambodian conflict. The ASEAN states have no common incentive to intervene in the Rohingya crisis. Besides, without an international mandate, ASEAN does not have any legal authority to interfere in the crisis as its charter explicitly prohibits the member states to apply coercive measures to settle regional issues.

The Rohingya crisis has exposed the institutional limitations of ASEAN in dealing with humanitarian issues. In contrast to other regional bodies like the EU, ASEAN lacks a coherent institutional structure to address the human rights issues in South-East Asia. Apart from certain references in core ASEAN documents, the issue of human rights was never a central agenda of ASEAN. From the beginning, the organization has prioritized the issues of 'economic growth' and 'regional integration' as stipulated by the Bangkok declaration. In a Joint communique of 1991, ASEAN characterized human rights as a 'universal' discourse but insisted that its 'implementation in the national context should remain within the competence and responsibility of each country'. However, ASEAN nations have established the ASEAN Intergovernmental Commission on Human Rights (AICHR) in 2009 and adopted the ASEAN Human Rights Declaration (AHRD) in 2012 to integrate the issue of human rights in its regional agenda. But the AICHR is not equipped with necessary legal instruments to address the human rights issues in the region. The mandate of AICHR

emphasized on developing an 'ASEAN human rights standard' without any mention of an enforcement or monitoring mechanism (Petcharamesree 2013). The terms of reference of AICHR failed to specify any enforcement power of the commission. Instead, it adopted 'non-interference' as a guiding principle of intra-ASEAN human rights co-operation (Arendshorst 2009). In the context of Myanmar, the AICHR has contributed a little to change the course of human rights violations in the country. Although the formation of AICHR is an important step towards the institutionalization of human rights in South-East Asia, without an enforcement mechanism the commission cannot properly address the country-specific human rights issues.

Furthermore, the political division within the ASEAN has weakened the organization's ability to undertake a collective action in the case of Myanmar. Though ASEAN states have condemned the human rights situation in Myanmar in the past, they differ considerably on the approach to address the situation. A clear divide is visible in the organization along the religious line. The Muslim majority nations such as Indonesia and Malaysia have urged ASEAN to play a more constructive role in the Rakhine state. However, other nations are less enthusiastic to intervene in what they see a 'domestic matter' of Myanmar. Thailand, Cambodia and Vietnam have issues with their respective Muslim minorities. These countries are concerned that any ASEAN action in regard to the Rohingya crisis may bring attention to the treatment of their own minority population (Kassim 2012). Thus, they are comfortable with minimal ASEAN involvement in the crisis. In sum, the Rohingya crisis is a delicate issue for ASEAN leadership. Any public disagreement may rupture the ASEAN unity and create obstacles for intra-ASEAN co-operation.

29.6 Is the 'ASEAN Way' Enough?

Many proponents of ASEAN insist that the organization's 'non-interference' policy has created a peaceful environment in the region. There are, of course, certain merits in such an argument. The non-institutionalized and non-binding nature of the 'ASEAN Way' has allowed the member states to reconcile their differences and settle their disputes without resorting to arm conflict. ASEAN's conflict management method offers bilateral mechanism within a multilateral framework. To address specific bilateral problems, ASEAN states had formed joint working committees in the past. For example, Malaysia–Thailand and Malaysia–Indonesia joint border committees were formed to address border insurgency problem between those countries. Moreover, a Malaysia–Philippines joint commission was established to manage the problem of cross-border illegal immigration (Cabarello-Anthony 1998).

However, ASEAN leadership has long resisted the adoption of Western mechanisms of dispute settlement. It has been argued that ASEAN's way of decision-making, known as *Musyawah* and *Muafakat*, allows all parties to engage in a slow, step-by-step and incremental process of consultation and discussion which decreases the possibilities of conflict. In ASEAN's perspective, an informal process of negotiation provides much-needed flexibility to deal with contentious issues

(Cabarello-Anthony 1998). But such informal process of conflict resolution is overtly state-centric, and it has failed to integrate the human security discourse in its doctrine.

Hence, to deal with complex challenges of conflict management in the twenty-first century, ASEAN would have to adopt certain institutional arrangements like the European Union especially in terms of human rights. For example, in 2009, the treaty of Lisbon made the EU charter of fundamental rights (CFR) legally binding. The treaty amended article 6 of the treaty of the European Union and gave CFR the same legal standing with the domestic legal frameworks of the member states (Douglas-Scott 2011).

On the other hand, ASEAN's human rights architecture has been characterized by scholars as 'toothless' and 'lame duck' because of the absence of an enforcement mechanism. The lack of judicial institution akin to the European court of human rights is a major impediment towards the development of human rights discourse within ASEAN (Kaewjullakarn and Kovudhikulrungsri 2015). Moreover, the full realization of human rights discourse requires the integration of a human security perspective in the overall security arrangement of ASEAN. Many scholars argue that the ASEAN political-security community (APSC) provides a promising framework to advance and integrate the notion of 'human security' into the ASEAN agenda (Trihartono 2018). However, at this point, it is unreasonable to expect the total overhaul of ASEAN's existing policies on human rights. But a gradual transformation of existing approaches to human rights and security is necessary for the future integration of ASEAN.

29.7 Conclusion

The Rohingya crisis has certainly put stains on ASEAN's reputation. The failure to put pressure on Myanmar has exposed ASEAN's inability to manage and mitigate conflicts in South-East Asia. Though the ASEAN has been extremely successful in resolving inter-state disputes, it has failed to address the intra-state and inter-ethnic conflicts in the region. The political division on the Rohingya issue within the community shows the necessity of political, legal and institutional reforms to equip the organization with necessary legal mandates to meet the complex challenges of the present time. Three observations can be made on ASEAN's approach to the Rohingya crisis.

First, ASEAN's traditional notion of sovereignty has weakened its ability to effectively address the complex inter-ethnic problems in South-East Asia. Although the ASEAN mechanism offers a multilateral platform to discuss and resolve bilateral disputes, it has proved to be insufficient in improving the human rights situation in the region.

Second, while the democratic institutions are being slowly strengthened in countries like Indonesia and the Philippines, many ASEAN nations such as Myanmar and Thailand are still in democratic transition. On the other hand, Vietnam and Laos are socialist one-party states. Thus as a politically diverse community, ASEAN states

are not in agreement on how to integrate the issues of democracy and human rights within ASEAN agenda.

Third, regional organizations such as the European Union and the African Union have made human security and human rights as strategic priorities. In recent decades, these regional blocs have been slowly adopting a comprehensive human-centric security agenda. However, ASEAN still strictly adheres to the state-centric notion of regional security. Hence, the regional security co-operation within ASEAN is driven by the national security priorities of the member states. Furthermore, unlike the European states, the ASEAN nations have not explicitly categorized 'human rights' as a foreign policy priority. As a result, a strong commitment towards human rights has not been reflected on the overall policy approach of ASEAN.

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Chapter 30

Revisiting MSME Cartel Under Competition Act 2010 in Malaysia: The Thin Line Between Collusion and Cooperation



Angayar Kanni Ramaiah

Abstract The micro-, small-, and medium-sized enterprises (MSMEs) are an integral part of the Malaysian economic transformation process to foster growth, employment, and income as a developing nation of ASEAN. However, MSMEs and their trade associations' reliance via cluster and cooperation contradict the Competition Law (CL) initiated under the ASEAN Economic Community (AEC) agreement 2015. Meanwhile, the AEC third pillar under the "Equitable Economic Development" emphasizes the development of MSMEs as the key toward narrowing the development gap. In the mission of fulfilling the SMEs Master Plan 2025 objective to create globally competitive, resilient, and innovative enterprises through national CL, the national government's protectionist policy over MSMEs as national champions has shifted toward trade liberalization policy that prohibits all anti-competitive conducts, which include cartel irrespective of the size of the enterprises. Evidentially, cartel practices such as price-fixing or signaling, market sharing, limiting production and bid rigging activities are widely practiced among MSMEs in Malaysia to safeguard their market share in open competition. Meanwhile, MSMEs fail to comply with CA 2010 claim; they are disproportionately abused by dominant enterprises and also expected to adjust their competitive strategies with massive public and privately set standards to match up with multi-national corporations (MNCs). MSMEs and their trade associations also claim that CL is complicated for their understanding and cartel cooperation is a common and necessary strategy or business cooperation for their business survival to offset their structural disadvantages and economies of scale. The paper critically examines the thin line between the collusion and cooperation practice among MSMEs to find an amicable solution without compromising the objective and sanctity of Competition Act 2010, Malaysia.

Keywords Cartel · Collusion · Cooperation · Competition law · MSMEs

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30.1 Introduction

In Malaysia, micro-, small-, and medium-sized enterprises (MSMEs) or also referred as small and medium enterprises (SMEs) are classified based on a fixed quantitative measure as to the total number of workers and the business sales turnover (Omar et al. 2009; Nurulhasanah et al. 2016) according to the respective sector under the classification of “Small” and “Medium”. SMEs for manufacturing sector are defined as firms with sales turnover not exceeding RM300,000 or with employees of less than 5 for “Micro”, and the turnover less than RM50 million or number of full-time employees not exceeding 200 for “Medium”. Meanwhile, for the services and other sectors, they are defined as firms with sales turnover not exceeding or less than RM300,000 or employees of less than 5 for “Micro”, and not exceeding RM20 million or number of full-time employees not exceeding 75 for “Medium”.

MSMEs are regarded as a valuable national asset for developing economy, like Malaysia, because they account for the largest number of enterprises operating in ASEAN and play an important role in employment creation, as they tend to be more labor-intensive than the large enterprises (APEC 2015). Henceforth, ASEAN Economic Community (AEC) Blueprint 2025 and the ASEAN SME Master Plan 2025 outlined specific and focused measures to create globally competitive, resilient, and innovative MSMEs (MITI 2016). Therefore, MSMEs’ growth is considered an essential part of Malaysia’s economic transformation process to promote employment and income to local economy (Schaper and Lee 2016).

However, although the Malaysian government has facilitated various assistances and programs for promoting MSMEs’ development and sustenance, they face various challenges, ranging from financial constraints to management skills and issues with respect to marketing skill, survival rates, and now Competition Law (CL). MSME is generally not competitive, particularly with larger enterprises in international market and sophisticated management skills. Thus, MSME depends solely on their own experiences (Nurulhasanah et al. 2016), cooperation, and collusion facilitated through their trade associations to maintain their market share and profit. Although the Malaysian Competition Commission (MyCC) has embarked on various advocacy and outreach programs for MSMEs to create Competition Act 2010 (CA 2010) awareness and compliance culture, evidentially infringement cases reveal that the CA 2010 has not shackled their cartel culture (Ramaiah and Young 2017).

Cartel is a formal (explicit) agreement among competing firms who form a collusion to coordinate prices, marketing, and production information with an aim to increase their individual members’ profits by reducing competition (Sullivan and Sheffrin 2003). MSME management regards cartel simply as a common business instrument (Harm 2013) or business trite in Asia in various industrial sectors and retail businesses. Hence, price-fixing and other cartel conducts such as standard setting, exchange of sensitive business information, and bid rigging are commonly practiced among MSME communities in Asia through their respective sectorial trade associations very casually as a way of business (Ramaiah and Young 2017). This business trait became illegal under the Competition Act 2010 in Malaysia.

As a result, MSME community in Malaysia raised numerous concerns on the application of the CA 2010 to their businesses ranging from a claim that it should not apply to MSMEs at all, to complaints that it is too complicated for small businesses to understand its rules and compliance methods (The Edge 2016; Raj 2013). The paper revisits MSME cartel practice to examine the infringement and compliance-related issues under CA 2010 to explore an alternative approach or treatment (on prohibition and exclusion) for MSMEs toward providing a fair competition platform for all.

30.2 ASEAN Competition Law and MSMEs: Cartel Compliance and Infringement Issues in Malaysia

30.2.1 Objective and Scope of Competition Act 2010

Competition Law (CL) regime introduced and actively enforced in compliance with ASEAN Economic Community 2015 (“AEC”) agreement and roadmap to streamline and strengthen the competitiveness (ASEAN 2015) of the members businesses and economy (ASEAN 2016) (AEC Blueprint 2025) which predominantly includes the MSMEs competitive edge. However, as a member of ASEAN CL, application and awareness are still at infant stage of development in Malaysia. As other developing jurisdictions, Malaysia’s competition regime also suffers financial and human resource scarcity, lack of competition culture, and political economy constraints. But globalization and international trade agreement has increased the needs for CL compliance to overcome these enforcement problems. Thus, regional competition law initiatives such as ASEAN’s initiatives are important to potentially resolve some of the enforcement problems as an additional benefit that goes beyond these solutions (Gal 2009). At this stage of development, MSMEs and their related trade associations need more attention because they are the most defaulting business sector with various compliance issues especially for cartel under CA 2010.

The two primary regulations which emerged from the AEC agreement in Malaysia are the CA 2010 and the Competition Commission Act 2010. The Malaysian Competition Commission (MyCC) under the purview of the Ministry of Domestic Trade, Cooperatives and Consumerism (“MDTCC”) in Malaysia operates as an independent body to enforce the Act. The CA 2010 is envisioned by the legislatures to resolve the ever-increasing demands for global competitiveness and trade market liberalization compliance under AEC roadmap (Ramaiah 2016). However, the CA 2010 does not apply to all market sectors in Malaysia; certain sectors are excluded (under sector regulators) under the Communications and Multimedia Act 1998 in relation to network communications and broadcast sectors, Energy Commission Act 2001 in relation to the energy sector and Gas Supply (Amendment) Act 2016 (introduced general competition law provisions to the Gas Supply Act 1993) for gas market and Postal Services Act 2012, for postal market.

Generally, CA 2010 prohibits anti-competitive agreement (Section 4) and abuse of dominant position (Section 10) but does not have any provision to control merger. The law applies to all enterprises to operate in the free market economy without restriction or market distortion to optimize the benefit for consumer. The word “market” within the Act refers to product market and/or geographical market. The CA 2010 aims to promote market efficiency, which is believed to ultimately promote economic efficiency, consumer welfare innovation, and market participation. However, no exception or exemptions of any form given to MSMEs.

Section 4 CA 2010 prohibits horizontal and vertical agreements between enterprises insofar as the agreement has the object or effect of significantly preventing, restricting, or distorting competition in any market for goods and services. The word “agreement” (Section 2, CA 2010) is widely defined to include any form of contract, arrangement or understanding, decision by associations, and concerted practice (which includes any formal or informal agreements) either vertical or horizontal level agreement. Horizontal agreement refers to that between suppliers and buyers at different levels of production/distribution chain. Vertical agreement refers to that between enterprises which operate at a different level in the production or distribution chain and considered as less harmful compared to horizontal agreements [MyCC, Guidelines on Anti-competitive Agreements 2012].

Although the CA does not prohibit “cartel” specifically, the offence is governed and restricted under Section 4(1) of Chapter 1 Prohibition of the Competition Act 2010 which considers cartel as a “hard-core restriction”. Section 4(2) presumes specifically certain horizontal agreements to have the “object” of engaging in cartel practices when it significantly prevents, restricts, or distorts competition (Para 2.12 Guidelines on Chapter 1 Prohibition). Section 4(2) has listed certain horizontal agreements which has the object to fix price, share market, limit or control production, or bid rigging to be deemed to have the object of significantly restricting competition in the market or collectively recognized as cartel. This proviso strongly reflects the legislature’s intention to ensure that cartels are treated more severely compared to other agreements which may fall under Section 4(1) of CA 2010.

While the object clause provides no requirement to prove that the agreement has anti-competitive effect, the effect test requires MyCC to carry out an economic analysis. This provision applies to all conducts that lead to higher prices for consumers, shortage of supply, or limiting technological progress (Nassarudin and Haniff 2016). Hence, any horizontal agreements with an object in the list above are considered as a flagrant breach of the CA 2010 and MyCC need not assess their agreements for their anti-competitive effect (deemed liable).

Chapter 1, Prohibition Guidelines, also further prescribes that anti-competitive agreements or decisions will not be considered as “significant” if the combined market share of the parties to the agreement is less than 20% of the relevant market; or if the parties to the agreement are not competitors, and their individual market shares in any relevant market is not more than 25% (Guidelines to Chapter 1 Prohibition, MyCC).

The application of the object rule for cartel, such as agreements to fix, directly or indirectly the purchase or selling price or any other trading conditions, share

markets or sources of supply, limit or control production, market outlets or market access, technical or technological development or investment, or an act of bid rigging presumed prima facie infringement under Section 4 CA 2010. Meanwhile, in non-cartel anti-competitive agreement MyCC is required to establish their effect by the way of extensive analysis of the market to prove cases of infringement under Section 4 CA (Campbell and Macmillan 2001).

30.2.2 Scope of Prohibition and Infringement on MSMEs Cartel

Generally, cartel occurs if producers (especially large producers) work together to protect their interests by deciding to cooperate with respect to their market, by price-fixing, market sharing, limiting production, or bid rigging. In MSME context, these cartelization practices seem to facilitate cooperation among the members to avoid competition to protect their market share and profit. On the flipside, the most feared negative impact of such cooperation on consumer welfare includes among others:

- (a) Higher prices because cartel members can all raise prices together, which reduces the elasticity of demand for any single member.
- (b) Lack of transparency because members may agree to hide prices or withhold information, such as the hidden charges in credit card transactions.
- (c) Restricted output because members may agree to limit output onto the market, as OPEC and its oil quotas.
- (d) Consumer market carving because the cartel members may collectively agree to break up a market into regions or territories to avoid competing in each other's territory (Economics Online).

Meanwhile, MSME trade association decisions give rise to anti-competitive issues, among others;

- (a) When members bound over written constitution which contains rules of admission that may relate to, for example, the professional standards that must be met in order to join the association. Although such restrictions are justifiable if applied to all potential members, fairly and reasonably, overly restrictive or unfairly or inconsistent rules can be regarded anti-competitive if the effect of excluding (and thereby disadvantaging) businesses do not meet the rules;
- (b) When making recommendations, even if they are not binding, but may determine members' conduct and therefore remove their ability to act independently.
- (c) When members bound over or subjected to a "code of conduct" on how to conduct their business, e.g., by setting out policies or standards. Such codes even if extremely useful still considered anti-competitive, it relates to pricing, market sharing, or which have the effect of unreasonably excluding members. Any discussion or agreement to the fix of prices, sharing of markets, bid rigging, or limiting production in any way (as explained above); or exchange of sensitive

commercial information can also tantamount to cartel infringement (Tay and Partners 2016).

Cartel invokes a powerful alliance and attracts serious anti-competitive infringement when it imposes high barriers for entry into a market or industry, and leads all members to be “policed” by a dominant member (Economics Online). Henceforth, the Organization for Economic Cooperation & Development (OECD) endorses cartels as the “most egregious violations of competition law” because it not only “injures” consumers by “raising prices and restricting supply” but also distorts the world trade by creating market power, waste, and inefficiency in countries which otherwise would be competitive (OECD 1998; Wells and Haines 2009; Ezrachi and Kindl 2011). Thus, cartel activities such as price-fixing, market sharing, limiting production, and bid rigging are indeed the most serious infringement or considered as hard-core cartel because it is done by dishonest businessman who fully realizes its harm and willing to go to great lengths to keep their agreement secret (OECD 2003). Hence, cartels are prohibited widely around the world to protect competition benefits and consumer welfare.

Therefore, under CL any agreement to fix prices, divide up markets, limit production, or rig bids is regarded as an offence, regardless of their size of the business (The Star 2013b). However, price-fixing arrangement such as retail price maintenance (RPM) which facilitates manufacturer to provide high and sufficient profit margin to the retailers for retail services such as pre-sale display, product specific-information, store hours, adequate inventory, and post-sale service to increase is classified as vertical restraint and not considered as cartel. RPM resolves the free-rider problem and avoids advantage taken by other retailers who do not provide the same services to enjoy the benefits of another retailer’s investment and sell at a lower price. RPM is considered an important business strategy for small manufacturers trying to establish their brand in a new market.

The CA 2010 generally applies to all entities that carry on commercial activities equally. Cartel practices deemed under Section 4(2) CA 2010 are applied directly to any MSMEs, and it is not necessary to prove that MSMEs have any subjective intention of restricting competition when entering such agreement. It is also irrelevant to consider that the agreement was not in the commercial interest of some of the participants (Whish and Bailey 2012). This cartel ruling applies equally to agreements made during trade associations meetings and to even members who did not agree or intend to participate in the cartel, unless there is clear objective justification for the decision, for example, the protection of health or safety (Whish and Bailey 2012) under some other policy or exemption clause. However, if the combined market share of the MSMEs is below 20%, it is presumed to be unlikely to have an anti-competitive effect as prescribed in the Guidelines on Chapter 1 Prohibition for Anti-Competitive Agreements (CA 2010).

A leniency regime for cartel is stipulated in Section 41 of CA 2010. The Guidelines on Leniency Regime (MyCC) offer for full leniency or partial leniency for applicants who admit their involvement in a cartel by providing information or other forms of cooperation to MyCC, who ultimately reserves the right to give reduction up

to 100%. A full leniency is available if the enterprise admission of its involvements, information, and/or cooperation significantly assists or likely to assist in identification or investigation of any finding of an infringement. A partial leniency (such as reduction of sanction/fine/imprisonment) is given depending on the stage of the investigation, the nature and the value-added of the information as well as other cooperation provided by the leniency applicant (i.e., reduction in the sanction/fine) on case-by-case basis. However, leniency allowance is not considered as an exemption but rather as a means to encourage enterprises to provide insider information to curb cartels. Confidentiality and identity of the applicant are maintained subject to Section 21 of CA 2010 (ICN 2009).

The CA 2010 has provided MyCC broad discretion to decide the amount of reductions or immunity to be given, under Section 41 CA 2010, under its Leniency program for a cartel infringement under Section 4(2) CA 2010. The reductions also depend on whether the enterprise was the first to bring the suspected infringement to the attention of MyCC, the stage of investigation the involvement was admitted for the infringement as well as information or other form of cooperation and information already in possession of MyCC (CA 2010). The Guidelines on Leniency Regime (2014) also provides that what to be considered as “significant assistance” will be determined by MyCC on the specific circumstance of the case under consideration.

The leniency regime is designed to encourage cartelists to be the “first in” to supply as much information as possible in order to expedite MyCC’s investigation.

30.2.3 Cartel Infringement Under CA 2010: Can Smallness Be Reservation for Exemption?

The MyCC clarified MSMEs should be equally subjected to the CA 2010 in the absence of any legal provision for exemptions irrespective of their size like other jurisdictions (CHFA, MyCC Decision 2012). SMEs cartel involvement with respect to anti-competitive conducts such as price-fixing or signaling, production quotas, and facilitating factors was never eliminated by the CA 2010 because it was always practiced in the disguise of business arrangement or cooperation. MSME needed the cartel arrangement to provide them with larger share than in open competition. Despite various significant advocacy efforts to raise awareness and understanding of the CL, MyCC finds local MSMEs respond far less than encouraging to the MyCC’s efforts and promotion of free market enterprises (Raj and Burgess 2016).

The assessment for anti-competitive infringement examines both the actual common intention of the parties and objective of the agreement (i.e., its object) by inculcating the surrounding economic context. Thus, an agreement that’s highly likely to have a significant anti-competitive effect is only considered to have an anti-competitive object and does not require further consideration on its effect in non-cartel agreements. So although arguably this significant threshold market share

assessment (20% for horizontal and 25% for vertical agreement provision) may help MSMEs, this de minimis clause does not apply to cartel agreement.

Alternatively, MSMEs participation in a hard-core cartel can avoid the per se illegality or infringement if the enterprises can seek exemption subject to the requirements listed under Section 5 of CA 2010. An enterprise, which is a party to an anti-competitive agreement, can be relieved from liability (Section 5 CA 2010) if able to prove all the following four reasons:

- (a) There are significant identifiable technological efficiency or social benefits directly arising from the agreement;
- (b) The benefits could not reasonably have been provided by the parties to the agreement without the agreement having the effect of preventing, restricting, or distorting competition;
- (c) The detrimental effect of the agreement on competition is proportionate to the benefits provided; and
- (d) The agreement does not allow the enterprise concerned to eliminate competition completely in respect of a substantial part of the goods or services.

The onus of proving the reasons for exemption and that the benefits gained are passed onto the consumers lies on the MSMEs who seek the relief. How possibly these qualifications may help MSME cartel arrangements depend on the MSMEs ability to come within the specific scope of the exemptions and expensive expert legal and economic advice which the MSMEs may not afford (Cartel 2019). Hence, it means CA 2010 rule of reason approach and provision for social benefits can benefit MSMEs if they are able to seek it within the qualification.

30.3 MSME Cartel in Malaysia: Collusion or Business Cooperation?

30.3.1 Difference Between Collusion and Cooperation

The task for authority to detect cartel infringement is a daunting task because the line between collusion and cooperation among MSME is very thin and debatable. Evidence implicating meeting of minds among the competitors to collude is indeed difficult to obtain in practice. Hence, incentive-based mechanisms such as a leniency program may be the only way to encourage evidence from the cartel members (Chen 2004). Furthermore, oligopoly firms in a certain market have common tendency to decide the quantity to produce and price to charge, as if they were a monopoly. The joint action of this oligopolistic firm can hold down industry output, charge a higher price, and divide up the profit among themselves. When enterprises act together in this way to reduce output and keep prices high, it is called collusion. A group of firms that have a formal agreement to collude to produce the monopoly output and sell at the monopoly price is called a cartel. Cartels are indeed a formal agreement to collude

desire of businesses to avoid competing to enable them to raise the prices to earn higher profits. This is indeed a well-recognized trait described well by economists, Adam Smith in *Wealth of Nations* in 1776 as, “People of the same trade seldom meet together, even for merriment and diversion, but ends in a conspiracy against the public, or in some contrivance to raise prices” which emphasized natural self-interest promotes greater prosperity.

The consensus for cartel can be an explicit agreement to coordinate prices, an unwritten understanding to limit competition, or simply a mutual recognition that all firms would be better off if they restrained their competitive impulses and stabilized prices (Dick 1996). What is considered as a cartel is a questionable according to District Judge Rifkind when he said, “Whether the form of association they created be called a cartel, an international cartel, a patent pool, or ‘a technical and commercial cooperation’, its reality is of little significance but is the combination and a conspiracy in restraint of trade” (*United States v. National Lead Co* 1947; Harm 2013) is what matters for infringement under CL.

Meanwhile, collusion is non-competitive, secret, and illegal agreement between rivals who attempt to disrupt the market’s equilibrium. Collusion involves people or companies which typically compete against one another, but who conspire to work together to gain an unfair market advantage. Implicit collusion occurs when two or more firms in the same industry control the market through informal, interdependent actions (Investopedia 2019). Collusion is one of the two ways oligopoly firms cooperate to avoid competition besides mergers. Business all over the world found to formulate strategies of cooperation to reduce the risks and uncertainties of competition created by the market has been in existence since the late nineteenth century ranging from informal understanding, business interest associations, cartels, and joint ventures (Bouwens 2013).

Cartel shelters the local MSMEs from competition on the defined fields of the contract which makes the survival easier and facilitates MSMEs to receive a larger share than in open competition. Hence, cartels allowed an increased share and/or expansion of small members. These findings show cartels rather foster MSMEs (and consequently potential competition) as in the case of Swiss watch which although prevented the industry from concentration and expansion abroad (which undermined the industry’s competitiveness) but from the general point of competition reduced the number of part-takers in the market as possible. It was observed from a perspective of a nation’s competitiveness, more concentration and less national competition is what is needed. Hence, in order to strike a balance, several countries allow in certain cases MSMEs to form a cartel, if their combined market share does not exceed a certain margin. It is also acknowledged that a cartel of MSMEs is different from a cartel made of giant firms, and more important than firm size is the share in the respective market (Harm 2013).

Therefore, from MSMEs point of view, a collusion by way of an agreement such as to fix/increase prices becomes inevitable trade feature, especially to face up the challenges of global price uncertainties of oil and other essential inputs, whereby their collusion culture through their trade associations who acts as the coordinator among the members regarded as an act of ‘defense’ against big players.

The necessary discussion of benefits of cartel like agreement for MSMEs includes the information sharing which can assist SMEs to measure performances, know the market trends, to plan their operation, and plan for the market requirements. And by sharing industry information MSMEs anticipate any increase in demand or imminent shortages. Their market allocation allows them to create and develop market products and services in an orderly way. Finally, the joint purchasing indeed assists the MSMEs to centralize their order and combine warehousing or distribution functions more efficiently besides enabling them to face up to the various abuses or bullying tactics employed by larger enterprises or MNCs.

30.3.2 An Analysis of MSME Cartel Cases in Malaysia

In a very dramatic turn of event, the very first case caught by MyCC for cartel agreement to fix price was an MSME in Malaysia. MyCC ruled the decision of the President of Cameron Highlands Floriculturist Associations (CHFA 2012) to increase the prices of flowers by 10% during their meeting, infringed Section 4(2) CA. MyCC declared affirmatively in this case the principle that it will investigate, cartels, regardless of whether the agreement involves any large multi-national companies or as small as the family-run businesses. Price-fixing was established by various cases to have been widely and openly practiced among local MSMEs or MSME trade organizations as group or based around kinship network (Yeung 2004) effort to stand together to be in a stronger platform in their industry or sector for reasons to protect their market share and profit.

In CHFA case, MyCC specified that it is irrelevant whether members complied with the trade association's joint decision or whether the decision made is applicable to all the members. The members' mere joint agreement to increase the price evidenced in the minutes of their meeting and the newspaper publication is sufficient evidence to endorse their anti-competitive conduct. In most cases, the decision to increase the price was caused by the reason of increase in the production inputs such as increase in electricity, fertilizers, plastic covers, and other raw materials. Although MyCC acknowledged their reasons for increase and the existence of the common practice among SMEs as trite law (to discuss and set prices or divide market geographically), it still ruled it as an infringement. However, initially MyCC took a soft approach to enforcement by not imposing fines. MSMEs were also found not able to afford to pay the fine imposed. Thus, in the final decision MyCC only required CHFA to cease and desist the infringing act of fixing prices of flowers by providing an undertaking that its members shall refrain from any anti-competitive practices in the relevant market and also issue a statement on the above-mentioned remedial actions in the mainstream newspapers (Ramaiah 2016).

Ironically, the CHFA case did not serve as a lesson for other MSMEs to be aware of the impact of the CA 2010 on their business practice. Instead, more MSMEs and trade associations were caught after for similar cartel conducts, specifically price-fixing until to date. MSMEs, trade association cases revealed that cartel is

widely practiced among MSMEs in Malaysia. Investigation revealed cartel being practiced among most of the competition infringement cases that involve price-fixing arrangement (Nasarudin and Ahamat 2016). CHFA case was followed by stream of other cases related to price-fixing cartel, such as the Ice Manufacturers case (2015), Pan-Malaysia Lorry Owners Association (PMLOA) (2013), and Sibü Confectionery and Bakery Association (SCBA) (2015) (MyCC) (The Edge 2013). In determining the level of financial penalty, MyCC takes into account the seriousness of the infringement, duration of the infringement, and mitigating factors, such as being cooperative during investigation. In PMLOA, MyCC ruled to refrain the members from entering into any form of communications or to facilitate any communications concerning pricing, for services provided by lorry enterprises; and to amend and remove from PMLOA's and its members' Constitutions, any provision concerning any discussions and determination of any chargeable prices (The Edge 2013).

In June 2016, MyCC issued its decision against an information technology service provider to the shipping and logistics industry and four-container depot operators for price-fixing. MyCC held that the Container Depot Operators have infringed Section 4(2)(a) of the Act by entering into a horizontal agreement to fix the RM25 Depot Gate Charges together with the RM5 rebate which is deemed to have the object of significantly preventing, restricting, or distorting competition in the market for the provision of empty container storage, maintenance and handling services within a 5–15 km radius of the Penang Port. The financial penalties imposed on the operators and the information technology service provider ranged from RM52,980 to RM163,623, with a combined total penalty of RM645,774.

In Containerchain (M) Sdn Bhd and four-container depot case (Containerchain Case), MyCC decided even third parties that are not competitors in a relevant market may be held accountable for facilitating a cartel by engaging in concerted practices through vertical agreements. In June 2016, MyCC found that Containerchain, an information technology service provider, had entered into vertical agreements by the way of concerted practices with four-container depot operators (CDOs) to fix the Depot Gate Charge (DGC) and impose an unfair rebate on hauliers within Section 4(1) of the CA 2010 as the agreements had the effect of restricting competition. Containerchain's conduct of influencing the behavior of the CDOs and coordinating the implementation of the agreed revised DGC, as well as the rebate, was found to have exchanged confidential information on the DGC and rebate charges through Containerchain's system, thereby collectively engaged in a cartel.

MyCC nabbed Tuition and Daycare Centers (TDC) (2018) and asked them to repudiate their agreement with immediate effect with fine of total RM33,068.85 after they were found guilty of engaging in price-fixing. According to MyCC, the centers infringed Section 4 of the Competition Act 2010 (Act 712) by entering into an agreement in May 2017 to collectively fix and standardize their fees. MyCC sternly stipulated in its decision that price-fixing is a hard-core cartel and not tolerable because it victimizes and forces consumers to pay unnecessarily expensive prices (Star Online 2018).

The cases overall reveal that MyCC has taken stricter stance when enforcing hard-core cartel cases, and higher fines are imposed reflecting on the seriousness of

the infringement and deterring anti-competitive practices leading to an infringement of a prohibition under the Competition Act 2010. However, the MSMEs generally hold significant market power in narrow geographic or product markets and possess an incentive for restrictive behavior. MSMEs in saturated markets with uncontested structures and a low degree of innovation often threatened by new, resourceful entrants and react by shutting competitors out, by the way of anti-competitive collusion scheme.

30.3.3 MSMEs Cartel in Malaysia: Should There Be an Alternative Approach?

MSMEs are in overall recognized to have significant market power in narrow geographic or product markets and possess an incentive for restrictive behavior. MSMEs in saturated markets with uncontested structures and a low degree of innovation constantly feels threatened by new, resourceful entrants and react by shutting competitors out, by way of anti-competitive means (UNCTAD 2013; The Star Online 2019). Their limited size, resources, and profitability only allow them to develop expertise inhouse by relying heavily on cooperation with other firms and very often as the only option to develop and market their new, innovative, products. MSME's inability to compete with their larger counterpart on resources, capital, and technology can also force them out of the market (Nasarudin et al. 2013). Hence, some CL regimes provide necessary exemption. For example, Section 3 of the German Competition Act 2013 expressly allows cartel among MSMEs for cooperation agreement if the competition is not significantly effected and if it serves to improve the competitiveness of the MSME (GWBI, German 2013). European Union law also similarly recognizes the efficiency-enhancing effects of certain types of cooperation between undertakings and MSMEs in particular and regulates certain standard types of agreements as part of a long list of jurisprudence which was later codified in block exemption regulations and guidelines (EU, Council Regulation No. 2821/71 1971) on the assessment of horizontal and vertical (EU, Council Regulation (EC) No 1215/1999) cooperation agreements (RPPP, UNCTAD 2015).

Generally, MyCC experienced substantial difficulties in disseminating information (as an advocacy effort) to the widespread, multilingual Malaysian MSME community. MSME is very slow to undertake compliance, and their trade associations instead of taking a key role advocate compliance effort, keener to facilitate the illegal arrangements (Raj and Burgess 2016). MSMEs through their trade associations not only collude to fix prices but disclose their cartel conducts openly by announcing publicly or in the newspaper (CHFA). MSMEs are often caught by surprise and shocked to receive the charge on them. MSMEs claim the collusion needed for various administrative business efficacy reasons such as to deal with utility or fuel increase which never considered as business agreement but as a cartel agreement within the scope of CA 2010 (PMLOA). These analogies reflect the level of MSMEs unawareness,

blatant lack of knowledge, understanding, and education of the anti-competitive rules applicable to them.

Analysis of the stream of infringement cases prosecuted by MyCC reveals MSMEs and their trade associations failed to achieve the level of compliance expected and often prosecuted in Malaysia for various cartel-related anti-competitive conducts. CA enforcement did not change MSMEs cartel culture and is more dependent on their experience and trade associations for gaining competitive edge. As a result, the MyCC is always suspected of their trade association's activities. MSMEs trade association meeting serves as a forum for competitors to discuss and potentially agree on matters that should not be discussed or agreed under CA. Their blatant disobedience to CA is caused either because of their lack of awareness of CL or a limited understanding of its application. Thus, MSMEs and their trade associations openly commit the cartel by making open public announcement of their intention ignorantly in order to improve their business environment for their members. Despite various efforts to raise awareness to educate the Malaysian public and businesses of the CA 2010, MSMEs believe it does not apply to them (The Star).

These race toward globalization and aim to achieve a competitive edge at regional level further burdened the local MSMEs to face many challenges in their business environment. MSMEs became protective of their market share through a close network of entrepreneurs (Redding 1993) by forming trade associations or collusion and very much influenced by their own social, cultural, and religious bases underpinning business cultures (El-Kahal 2001; Ramaiah and Young 2017). The rise of e-commerce and online marketing further impacted MSMEs insecurity level. Although MSMEs benefited by accessing the previously inaccessible geographical market through digital marketing with innovative start-ups and price-cutting methods, investigation on abuse of online searches (See FTC File No111 0163 Google Inc.) proves MSMEs may be disproportionately affected by abuses of dominant undertakings in this area (UNCTAD 2015). Thus, MSMEs in developing countries have to adjust to the competitive strategies of the multi-national corporations (MNCs) in different countries with overwhelmed public and privately set standards (e.g., sanitary and phytosanitary), to changes in international tastes, prices, and competitive conditions. Therefore, the supply-side bottlenecks in the trade and investment areas and how the governments, development partners, and the private sector address these constraints have implications on their economic growth potential (OECD 2004).

Furthermore, MyCC, baseline study in 2013, indicated a very low level of awareness and knowledge of the CA 2010 among the respondents in the 14 states in Malaysia, in which, Perlis, Melaka, and Sabah projected zero level of awareness and knowledge of the CA 2010 overall. However, in 2016 although the study revealed an overall improvement in the quality of the Commission's advocacy and outreach programs in relation to awareness and perceptions of the CA, the survey did not reflect tremendous improvement on MSMEs sector (MyCC Report 2018). Furthermore, the cases reveal their cartel infringement conducts are though rather irresponsible but also done openly without any secrecy to show the level of knowledge and ignorance of CA in Malaysia.

In this context, it is questionable whether SME in Malaysia is equipped to ensure compliance and ready to move away from their habitual age-old anti-competitive infused mutual understandings, specifically cartel practice. Maybe, MSMEs need further advanced advocacy on awareness and help to better cope with competition law regime which is still a strange culture to them. Perhaps, alternatively, some consideration should be given by the various MSMEs-related authorities and trade associations as to what MSMEs need and/or should be given to ensure compliance and on what areas they may require assistance to avoid infringement of the CA (Star Online 2013b). Trade associations should also be motivated and monitored to lead their members to cultivate healthy competition culture to avoid liability.

30.4 Recommendations for MSME Cartel Treatment

MSMEs generally operate differently compared to the conventional large modern corporations and recognized to face different challenges in competing in open markets due to their comparatively, limited resources, and market size. From this perspective, MSMEs argued by virtue of their size should be excluded from the CL regime as they will not significantly affect competition in any market. However, unlike some other jurisdictions (such as Indonesia), local MSMEs are not given any specific exemption or exclusion under CA 2010, Malaysia.

Malaysian MSMEs face significant barriers that prevent them from achieving their full potential with competition from cheaper imports and foreign competition. Furthermore, MSMEs' lack of financial resources and expertise to develop its business structure add to the challenges to meet the consumer demands for quality, innovation, and competitive pricing. Most MSMEs in Malaysia (similar to other South-East Asian economies) are founded by families decades ago with age-old business practices and norms driven by traditional Asian values. So MSME must increase their competitiveness if they are to survive and grow in a highly competitive marketplace (OECD/ERIA 2018).

However, the process of educating the MSME anti-cartel activity needs further advocacy efforts because collusion to fix/increase prices arguably has been an inevitable cooperation process for MSMEs to face up to global price uncertainties of oil and other essential inputs. Collusion acts as a 'defense' against big players. Thus, from MSME point of view, the culture of sharing price information, amongst themselves had been a business norm (Ng 2012) dating back from the colonial days for over a century, and in fact it is one of the main founding reasons for starting of trade associations (Ramaiah 2017).

The unfortunate turns of event under the present regulatory position are rather unacceptable and incompatible for the MSMEs survival strategy. Thus, MSMEs are rather traumatized and unprepared to move or shift to different competitive levels under CA 2010. The current state of facts from the various disobedience cases reflects MSMEs are innocently naïve and willingly ignorant to move away from the cartel

like practices. This current state of affair must be accepted to develop a better policy for MSMEs to achieve competition culture within the CA 2010.

Meanwhile, CL should consider the MSME condition from local level of compatibility to reflect a society's wishes, culture, history, institutions, and other factors that cannot be ignored nor should necessarily be ignored. Could one of those proclaimed policies promote MSMEs economic growth and if so, what's its impact or benefit on local MSMEs micro- and macroeconomic perspective must be further evaluated and analyzed to understand the effect on MSME. Decision on whether local MSMEs be given an exemption or must strictly adhere to cartel prohibition should be based on the collateral impact of its enforcement (Ramaiah 2016, 2017) on MSMEs.

30.5 Conclusion

Malaysian MSMEs cartel business culture or collusion to fix things in the name of advancing the common good. Cartel must be changed despite all excuses from the MSMEs. Presently, the Malaysian MSMEs deserve to be considered for some conditional exemption at least as an interim measure to adjust their strategy in line with national and regional CL policy. Perhaps, specific competition policies must also be developed to address their distinctive characteristics without contradicting the regulatory objectives of CA 2010. Cartel should not be disallowed or under regulated as facilitating certain exemptions for a duration or under certain controls may benefit the society and the economy. This is because the affected sectors such as retail (especially high-end or branded goods), gastronomy and wider hospitality should be given further consideration. Similarly, in consideration of the rise of e-commerce as well as online marketing creating, a new area where MSMEs may need time to adjust should be given some exemptions during the interim period with respect to some types of anti-competitive agreements. Alternatively, although tedious on the MyCC, a case-by-case approach according to the need of the nation's economy and in line with policy for an inclusive growth and MSME development should be adopted to deal with MSME cases.

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Chapter 31

Identification of Key Leadership Criteria Critical to SDG3 Success: Linking QFD and the Triple Helix Model



Harshita Aini Haroon and Norshahrizan Nordin

Abstract Ensuring healthy lives and well-being of a nation's population is paramount to sustainable development, as delineated in Goal 3 of SDG. Target 3c specifically focuses on the need to “substantially increase the recruitment, development, training and retention of health workers”. Underlying this target, or action plan, is the presence of strong leadership to mobilize the agenda. The purpose of this paper is to conceptualize a way in which crucial leadership criteria can be identified for the successful implementation of the SDG. The paper will first show how features present in a volatility, uncertainty, complexity, and ambiguity (VUCA) environment can be ascertained, in order to identify key leadership criteria of healthcare workers in teaching hospitals. The criteria will be ranked using quality function deployment (QFD) as a tool. The result of the ranking is then interpreted based on the triple helix model due to the nature of the teaching hospitals, i.e., the collaboration of the state, the university, and the medical industry. The paper suggests that undertaking such analysis will lead to the identification of most desirable leadership characteristics of health workers, which we argue are important to be developed to ensure the achievement of Goal 3 of SDG.

Keywords SDG · VUCA · QFD · Good health and well-being

31.1 Introduction

The “UN 2030 Agenda for Sustainable Development” signals that we currently live in complex and unpredictable environments and facing unprecedented changes. In 2015, the United Nations developed the 17 Sustainable Development Goals (SDGs) to focus on diverse local and regional actions so that governments and relevant parties can collectively address worldwide needs and create a shared global future

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(UN 2015). In the healthcare world, SDG-related research is conducted in several disciplines, including business and management (Annan-Diab and Molinari 2017; Schaltegger et al. 2017; Storey et al. 2017). The SDGs and their potential and saliency, however, have only just started to make an appearance in the healthcare literature (Rinaldi and Sciarelli 2017). As in other service sectors, leadership in healthcare services should play a substantive role in helping embed policy and action at an organizational level in a way that contributes toward the achievement of the SDGs. We therefore believe that there is a need to propose a model integrating quality function deployment (QFD) tool together with the triple helix model (THM) to identify key leadership criteria in the industry. Equally, VUCA affects and plays a key role in the pursuit of the criteria. As such, we will also identify leadership attributes based on VUCA quadrants before identification is done based on the QFD-THM model.

31.2 Initiatives in Sustainable Development Goals (SDGs)

A lot of academic attention has been given to SDGs since they were envisioned. Transforming the world and realizing the SDGs by 2030 will require a paradigm shift in the way societies govern themselves. It will require rethinking on the role of governments and the way it interacts with civil society. The involvement of the private sector is also of no less importance. Key to these considerations is the needs of the people, which will possibly require focus on effectiveness, inclusivity, and accountability. In the last 2 years alone, academic reports are abundant in various SDG implementations.

Table 31.1 gives an overview of the implementation, showing how each study has practical implications within the context in which they are carried out. However, as much as these are important, their implementation is not as clear-cut as we would like it to be. This is due to the presence of a VUCA environment.

31.3 Volatility, Uncertainty, Complexity, and Ambiguity (VUCA) Environment and Leadership

The VUCA environment is often associated with instability. Bartscht (2015) likens VUCA environments to “being in a fierce winter blizzard at night, everything is always shifting and one cannot properly see what lies ahead. It is extremely difficult to orientate yourself in a blizzard and find your way forward (p. 254)”. Figure 31.1 illustrates the attributes of each of the VUCA environment, applicable in many contexts including that of leadership.

Table 31.1 Studies/projects related to SDGs

(Year) and Authors	Implementations	SDGs focus area
(2019) Delgado et al.	[A compositional approach for modeling SDG7 indicators: case study applied to electricity access]	SDG 7
(2019) Ferro et al.	[Validating and expanding a framework of a triple bottom line dominant logic for business sustainability through time and across contexts]	SDGs
(2019) Franco and Tracey	[Community capacity-building for sustainable development: effectively striving toward achieving local community sustainability targets]	SDGs
(2019) Banerjee et al.	[Evaluating synergies and trade-offs in achieving the SDGs of zero hunger and clean water and sanitation: an application of the IEEM platform to guatemala]	SDGs
(2018) Nikolaos et al.	[Entrepreneurship and the sustainable development goals]	Economic, social, environmental
(2018) Olayinka and Nwagwu	[SDGs and digital financial services (DFS) entrepreneurship: challenges and opportunities in Africa's largest economy]	Poverty
(2018) Salazar et al.	[Aligning your team's vision with the world's bold goals]	SDGs
(2018) Pomare, C	[A multiple framework approach to sustainable development goals (SDGs) and entrepreneurship]	SDGs and SMEs
(2018) Al-Zu'bi and Radovic	[Mapping SDG stories]	Natural resources, emissions
(2018) Marchand and Dijkhuizen	[Entrepreneurship as a tool for a new beginning—entrepreneurship training for refugees in a new homeland]	SDG 8

(continued)

Table 31.1 (continued)

(Year) and Authors	Implementations	SDGs focus area
(2018) Moon	[Contributions to the SDGs through social and eco-entrepreneurship: new mindsets for sustainable solutions]	Education
(2018) Asi and Williams	[The role of digital health in making progress toward Sustainable Development Goal (SDG) 3 in conflict-affected populations]	SDG 3

<p>Complexity Many interconnected parts & variables Overwhelming amount of information processing and sense making Challenges capacity</p>	<p>Volatility Unexpected challenges Unstable/unpredictable context Timing or duration unknown</p>
<p>Ambiguity Causal relationships unclear No precedents Several “unknown unknowns”</p>	<p>Uncertainty Basic cause-effect are known Lacking key information Change is possible, but not given</p>

Fig. 31.1 VUCA attributes (Bartscht 2015)

Leadership involves both the rational and emotional sides of human experience. It includes actions and influences based on reason and logic as well as those based on inspiration and passion. It is often associated with words like risk-taking, dynamic, creativity, change, and vision. The importance of strong leadership in the running of any organization, more so, one that is in the service sector, cannot be understated. Kaivo-oja and Lauraeus (2018, p. 46), in recent management and leadership literature, state that “under VUCA conditions, leaders and managers need a new arsenal of foresights and management tools and methods. A global mindset, a virtual mindset, an innovative mindset and a collaborative mindset are all key requirements in the VUCA environment”. The importance of leadership in the capacity development of others is indisputable, as highlighted by Alejandro and Yolanda (2015), who posit that “leadership is going to be a matter of discovering the positive energy in each person, to stimulate the best in every individual and develop the potential of everybody because this ‘energy’ is a small assurance of the future” (p. 854). The recognition of the VUCA environment has given rise to studies which demonstrate how the categorization can be useful for the purpose of identifying and highlighting leadership roles and attributes. Table 31.2 shows some studies conducted in the past 4 years on leadership in VUCA environments.

Table 31.2 The VUCA environment and leadership

Year	VUCA environment–building leaderships	Significance
2018	[The VUCA approach as a solution concept to corporate foresight challenges and global technological disruption (Kaivo-Oja and Lauraeus 2018)]	Decision-making
2018	[Design thinking: how to thrive in a VUCA world (Krawchuk 2018)]	Congruent support system
2018	[Leadership in transformation: from Maestro to a Jazz Orchestra (Porat 2018)]	Complexity of leadership
2018	[The essence of leadership for achieving the sustainable development goals (Bahauddin 2018)]	SDGs strategic plans
2018	[Humanistic leadership for sustainable transformation (Colbert et al. 2018)]	Sustainable livelihoods
2017	[Leadership resilience in a VUCA world (Breen 2017)]	Leadership resilience
2017	[Ethical leadership at the speed of VUCA (Elkington et al. 2017)]	Ethical leadership
2017	[Collaboration in a VUCA environment (Krawchuk 2017)]	Visionary leadership
2017	[Change management in a VUCA world (Pearse 2017)]	Change management
2016	[Increasing darkness: combining toxic leadership and volatility, uncertainty, complexity, and ambiguity (VUCA) (Watt et al. 2016)]	Toxic leadership
2016	[Leading with virtue in the VUCA world (Ko and Rea 2016)]	Sustainable livelihoods
2015	[Why systems must explore the unknown to survive in VUCA environment (Bartscht 2015)]	System dynamics
2015	[Metaphors for today’s leadership: VUCA world, millennial, and “cloud leaders” (Alejandro and Yolanda 2015)]	Leadership development
2015	[Leadership for sustainability: theoretical foundations and pedagogical practices that foster change (Burns et al. 2015)]	Pedagogical

31.4 Forecasting and Modeling Leadership Attributes in Sustainable Development Goals (SDGs)

Given that leadership attributes can be identified based on VUCA, it is then pertinent that these attributes are ranked. The ranking is important to enable prioritization to be made so that focus can be given to the development of essential attributes. Within the context of SDGs, the use of modeling ensures transparency in decision-making related to the ranking. It also allows for prioritization to be applicable across various SDGs due to its robust nature. Table 31.3 highlights the contribution of forecasting and modeling in studies on SDGs.

The contributions in Table 31.3 reveal that various tools and algorithms result from modeling and forecasting. It appears that multiple criteria decision analysis (MCDA)

Table 31.3 Forecasting and modeling in SDGs

Technological Forecasting and Modeling	Contribution	Year
[Healthcare and SDGs governance in light of the sustainability helix model: evidence from the African continent (Saviano et al. 2019)]	Sustainability helix model	2019
[Community leadership and the triple helix model as determinants of the constitution of science parks: a Brazilian experience (Bencke et al. 2019)]	Triple helix, Brazilian science parks, Community leadership, Fourth helix	2019
[A compositional approach for modeling SDG7 indicators: case study applied to electricity access (Delgado et al. 2019)]	Compositional data analysis, Linear transformations, Mathematical transformations, Multivariate model, Trend analysis	2019
[Are SDGs suitable for China's sustainable development assessment? An application and amendment of the SDGs indicators in China (Zhu et al. 2019)]	Analytical hierarchy process (AHP), Pairwise comparisons, Multiple dominant, Evaluation index system, Global indicator framework for the SDGs	2019
[Optimal decision guidance for the electricity supply chain integration with renewable energy: aligning smart cities with sustainable development goals (Al-Nory 2019)]	Decision-making, Optimization, Electricity supply industry, Power generation economics, Renewable energy sources	2019
[Community capacity-building for sustainable development: effectively striving toward achieving local community sustainability targets (Franco and Tracey 2019)]	Higher education, Sustainability, Stakeholders, Community, Capacity-building	2019
[Examining the application of the lifelong learning principle to the literacy target in the fourth sustainable development goal (SDG 4) (Hanemann 2019)]	Literacy, Adult, Adult literacy, Inclusive and equitable quality education, Lifelong learning perspective	2019
[Composite innovation metrics: MCDA and the quadruple innovation helix framework (Carayannis et al. 2018)]	Innovation scoreboard, Multiple criteria decision analysis (MCDA), Analytical hierarchical process (AHP), TOPSIS, Quadruple innovation helix framework, composite innovation metrics	2018
[Monitoring water resources governance progress globally: experiences from monitoring SDG Indicator 6.5.1 on integrated water resources management implementation (Bertule et al. 2018)]	Resource management, Water governance monitoring, Integrated water resources management	2018

and multivariate analysis are common tools utilized in studies on SDGs. This is understandable as both these tools were generated by computational experiments with simulation softwares (Kicinski and Solecka 2018). However, the authors are of the opinion that MCDA and multivariate analysis are limited in their applications for the purpose of ranking. While both MCDA and multivariate analysis exhibit stability in their use and are able to process voluminous input, they are unable to cater for multiple loops of analysis. In addition, MCDA and multivariate analysis are only as robust as the softwares will allow. In comparison, QFD's robustness lies in its ability to enable simultaneous processing, moving backward and forward to result in the best fit based on multiple dimensions of analysis. The trial-and-error mode is an advantage because the analysis will continue until a logical output is arrived at. Another tool that we found to be commonly used is the triple helix model (THM). Originally developed by Etzkowitz and Leydesdorff (1998), it is used to analyze innovation processes as outcomes of effective interaction among three key institutional agents: universities, industry, and government (Carayannis et al. 2018, p. 5).

31.5 Key Concerns in SDG3

A scrutiny of research done in 2017 and 2018 on healthcare reveals key concerns in the industry, which we argue can be addressed with the presence of strong leadership. For each of the concerns, we are able to identify key variables which can be placed in the VUCA quadrant. The key variables are shown in Table 31.4.

31.6 Quality Function Deployment and Its Application in SDG3 via Healthcare Services

Quality function deployment (QFD) is a well-established methodology used to translate the "what", the "voice of the customer" or customer needs into the organization's accomplishment, the "how" (Hamilton and Selen 2004). Originally, QFD was conceptualized by Akao in 1960 to determine the characteristics of industries in Japan. It is a method to convert customer requirements into technical requirements, which are important for production and service delivery. Figure 31.2 illustrates the nine steps in QFD model. Although there are nine steps, its deployment can range between five, seven, and nine steps. In this study, three phases will be included, mainly **Phase 1** for determining importance rating of (WHATs), **Phase 2** on the identification of customer needs (WHATs), Steps 2 and 3; Step 4: to generate technical measures (HOWs); Step 5: to determine relationships between (WHATs) and (HOWs); then Step 6: matrix relationships. **Phase 3** is mainly focused on Step 7: to determine

Table 31.4 Healthcare directions in SDGs

Year	Key concerns of SDG3	Key variables
2018	[Future Direction of Sustainable Development in Private Hospitals: General Similarities and Specific Differences (Rodriguez and Svensson 2018)]. The study assessed the future direction of sustainable development in the healthcare industry and aimed to reveal general similarities and specific differences between private hospitals and enabler or hinders of sustainable development. Based on an inductive approach, judgmental sampling was applied to select relevant healthcare organizations. The informants were identified according to their knowledge of their organizations' sustainability initiatives via qualitative approach (Interviews)	<ul style="list-style-type: none"> – complex relationships and networks – organizational conviction regarding the future direction of sustainable development
2018	[Sustainable Development Goals and Reproductive Healthcare Rights of Internally Displaced Persons (IDPs) in India (Sahoo and Pradhan 2018)]. The study focuses on identification and arrangement of durable advocacy with the IDPs and for health promotion. Highlights on the need for monitoring and evaluation of multiple health schemes, given that new IDPs have complex needs and health problems due to the exposure to physical and environmental threats, violence, and trauma. Many of them face a loss of social networks and assets, knowledge and information in the new environment, and lack food security. They have inadequate shelter, healthcare services, sanitation, and access to safe water	<ul style="list-style-type: none"> – internally displaced persons (IDPs) as overlooked population – displaced women and children – access to the reproductive healthcare rights, basic health, and needs

(continued)

Table 31.4 (continued)

Year	Key concerns of SDG3	Key variables
2017	[The Potential of Health Literacy to Address the Health-related UN Sustainable Development Goal 3 (SDG3) in Nepal: a Rapid Review (Budhathoki et al. 2017)]. The World Health Organization (WHO) has positioned health literacy as a key mechanism to meet the health-related Sustainable Development Goal (SDG3). However, given that there is little known about the status of health literacy in developing countries such as Nepal, a review was conducted to answer the question: What are the impediments of public health in Nepal that could potentially be addressed by health literacy?	<ul style="list-style-type: none"> – strong barriers to healthcare engagement: knowledge and education – other barriers: culture, gender roles, quality of service, and cost of services
2017	[The Sustainable Development Goals and the Global Health Security Agenda: Exploring Synergies for a Sustainable and Resilient World (Bali and Taaffe 2017)]. A study initiated due to a lack of a specific target for global health security	<ul style="list-style-type: none"> – the need to strengthen health systems – the need to build IHR core capacities for a sustainable world resilient against infectious disease threats – to increase financial support by enhancing private sector engagement and domestic resource mobilization and allocation
2017	[An Analysis of Determinants of Under-5 Mortality (U5MR) across Countries: Defining Priorities to Achieve Targets in Sustainable Developmental Goals (Acheampong et al. 2017)]. Results from 109 countries showed that the most important factors that accounted for the differences were fertility rate, total health expenditure per capita, access to improved water and sanitation, and female employment rate	<ul style="list-style-type: none"> – provision of affordable maternal healthcare services – development of educational programs for mothers and adolescents – improving access to safe drinking water and sanitation

final importance ratings of (WHATs); Step 8: to determine initial technical ratings of (HOWs); and lastly, Step 9: to determine final technical ratings of (HOWs).

QFD has been employed in healthcare service organizations in order to understand consumers' expectations better and consider these expectations into their strategy to create high service specification and process performance (Camgoz-Akdag and Tarm 2013). There are many previous studies available on quality function deployment (QFD) application in healthcare services. Cheng and Nordin (2018) applied QFD in healthcare for physical environment, patient satisfaction, quality culture, and brand image toward quality for sustainability. Nordin and Razak (2015) invented new integration of QFD-Kano in their study to redesign the assessment on satisfaction and

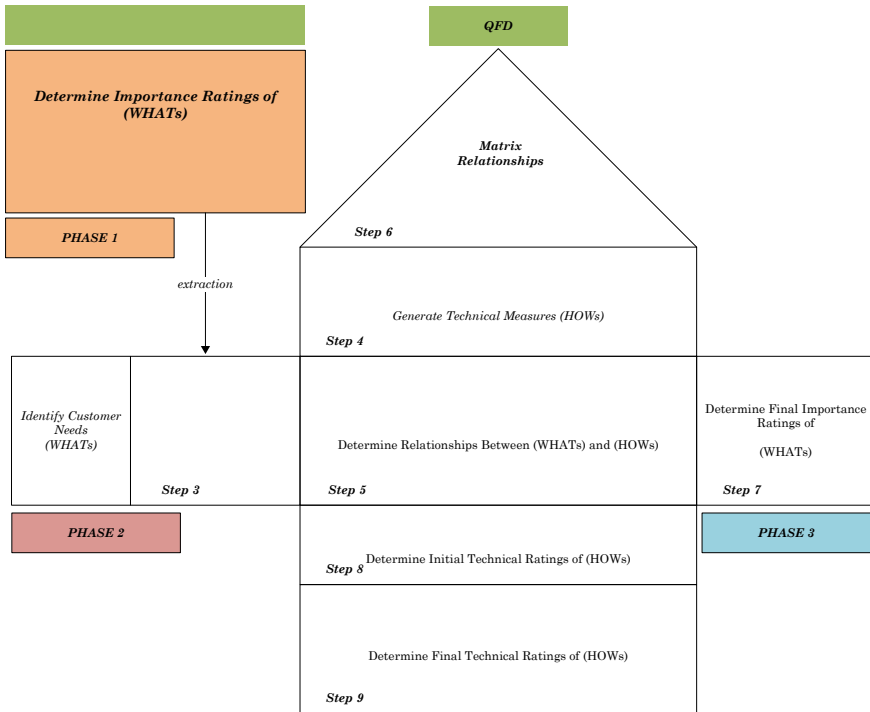


Fig. 31.2 Nine steps in QFD model

dissatisfaction among hospital patients in Malaysia Public Hospital. Mao and Pena-Mora (2019) also proposed QFD in different stages of the critical infrastructure systems (CISs) life cycle and could transform resilience criteria into system properties. Camgoz-Akdag and Tarm (2013) adopted QFD to define the customer needs and expectations and convert it into the quality characteristics while defining also the private healthcare setting. In addition, many case studies have been published detailing the adoption of QFD by a number of researchers in healthcare services (Nordin et al. 2018), some of which are exemplified in Table 31.5.

31.6.1 Establishing Key Leadership Criteria: Utilization of Quality Function Deployment (QFD) and Triple Helix Model (THM)

Key leadership criteria for health sectors within SDG3 can be identified through three specific phases. Figure 31.3 illustrates our proposed working model. Generally, Phase 1 identifies leadership criteria pertaining to SDG3. The bulk of the process of leadership criteria identification lies in Phase 2. The consideration of THM and

Table 31.5 QFD in healthcare services

QFD applications	Tools	Year
[Hospitality Co-Creation with Mobility-Impaired People (Lin et al. 2019)]	Co-creation	2019
[Quality Function Deployment-based Framework for Improving the Resilience of Critical Infrastructure Systems (Mao and Pena-Mora 2019)]	Resilience	2019
[A Multi-Phase QFD-based Hybrid Fuzzy MCDM Approach for Performance Evaluation: A Case of Smart Bike-Sharing Programs in Changsha (Tian et al. 2018)]	Hybrid Fuzzy MCDM	2018
[Robust Fuzzy Quality Function Deployment based on the Mean-End-Chain Concept: Service Station Evaluation Problem for Rail Catering Services (Wu et al. 2017)]	Robust Fuzzy QFD	2017
[Combined Quality Function Deployment and Logical Framework Analysis to Improve Quality of Emergency Care in Malta (Buttigieg et al. 2016)]	Quality Function Deployment (QFD), Logical Framework, Emergency Care	2016
[A Multi-phased QFD-based Optimization Approach to Sustainable Service Design (Chowdhury and Quaddus 2016)]	Optimization, Service Design	2016
[Improving Healthcare Quality: A Technological and Managerial Innovation Perspective (Kim et al. 2016)]	Innovation	2016
[Green Hospital Design: Integrating Quality Function Deployment (QFD) and End-User Demands (Wood et al. 2016)]	QFD, Green Hospital Design	2016
[Analyze the Healthcare Service Requirement using Fuzzy QFD (Lee et al. 2015)]	Fuzzy QFD	2015

its technical measurement happens in this phase. At this stage, leadership criteria applicable to all three players, i.e., the government, industry, and academia, are scrutinized, resulting in measures of VUCA-SDG3-THM relationship. The measures are then tested for strength based on relationship matrix in Step 6. The result of the mapping is a series of ratings pertaining to the identified leadership attributes. The ratings will enable ranking to be made for SDG3. However, the model also allows for the determination of leadership attributes that are applicable to all SDGs resulting in further ranking of the attributes. The final step in the model will produce two sets of rankings: one is for general leadership attribute critical to overall SDGs success, while the other one is for key leadership criteria critical to the implementation of SDG3.

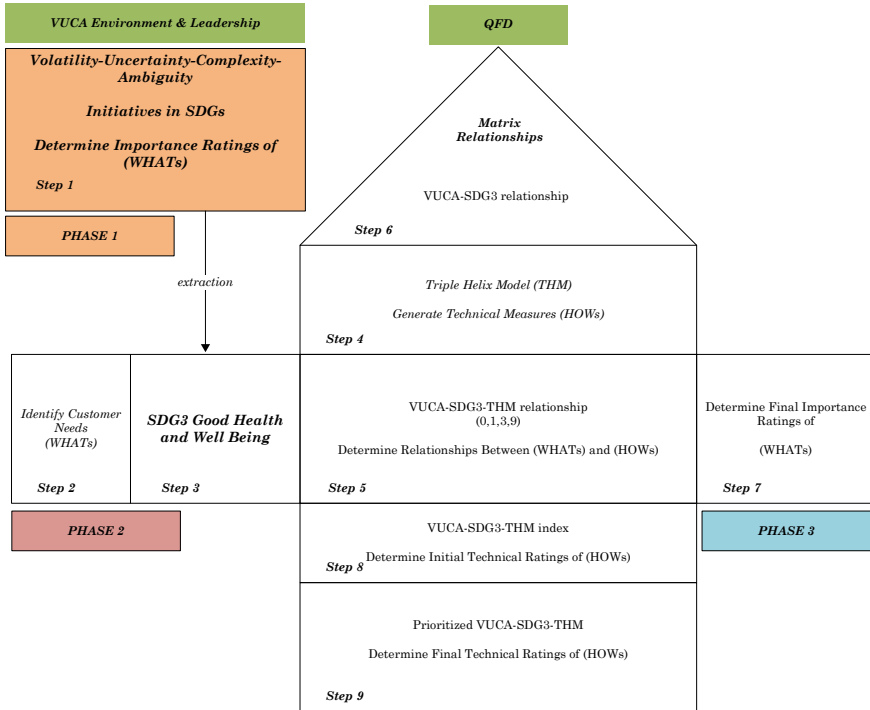


Fig. 31.3 The proposed QFD working model

31.7 Conclusions

The working model has been conceptualized based on the authors’ previous work in the context of patients’ satisfaction and dissatisfaction, as well as being informed by literature. We hope to test the model by drawing upon the Malaysian healthcare context. Further works may include its application in the context of higher education, the construction industry, and other service sectors.

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Chapter 32

Using the ASSURE Model in Developing an English Instructional Module for Indonesian Migrant Workers in Penang, Malaysia



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Abstract The aim of this study was to develop an English instructional material for Indonesia migrant workers in English Academy Bengkulu Malaysia. The output of this study was an instructional teaching material product in the form of module developed using ASSURE model that has gone through the stages of analyzing student characteristics; standards and learning objectives to be achieved; selecting methods; media and teaching materials; using media and materials; and require learner participation. After the development process is complete, the product is also validated by experts, especially in the content and language section. Based on the results of tryouts that have been conducted on Indonesia migrant workers in Penang, Malaysia, this product received a positive response from them and their English teachers. The product is also proved useful in completing and covering shortcomings in the teaching-learning process in English Academy Bengkulu Malaysia. The result of the study is an English instructional module consisting of six chapters on topics of daily conversation, business communication, basic writing, delivering speech, news reading, and tourism conversation. This educational product is also expected to be able to assist the ASEAN free trade program in the future.

Keywords ASSURE model · English instructional material · Indonesian migrant workers

32.1 Introduction

English is a global language which plays an important role in various aspects of life, especially in this era of globalization faced by the ASEAN free trade. However, the Indonesian government through the Ministry of National Education made policies to

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acquaint this language in its educational system in elementary schools and colleges due to its importance in business, communication, education, science, technology, diplomacy, art, tourism, etc. (Saukah 2003).

Learning English, as a course, is different compared to formal classes, which are not systematically structured (Pujiati and Aisah 2015). According to the previous researches, learning materials used by class instructors are organized based on the teachers' expectation and not the participants, with inadequate teaching evaluation. In addition, the implementation of an English language training program for Indonesian migrant workers known as the English Academy Bengkulu Malaysia has not been properly programmed and does not have adequate teaching materials. Besides, its purpose is also not systematically structured, to increase the speech skills as well as the needs and demands of the organization. Interviews were conducted regarding the interpretation of the academy program, which resulted in varied responses, thereby implicating the choice of teaching materials utilized. An instructor is opportune to use books that are commonly used in formal English classes, while other teachers search for material from various sources and then combine them into a module.

32.1.1 An Overview of English Academy Bengkulu Malaysia

Poverty is one of the dominant and main factors which drive the Indonesian people to become migrant workers. However, this preference does not change their quality of life due to many problems. According to data obtained from *Ketua Kelompok Kerja Pemilu Luar Negeri Republik Indonesia* or the Chairperson of the Republic of Indonesia's Overseas Election Working Group Mr. Wajid Fauzi, in 2018, over 1 million migrant workers were living in Malaysia (Rizqo 2018).

According to interview results obtained from Indonesian migrant workers, they often receive unpleasant treatment from fellow workers from other countries, and a small local population of Malaysia. This was also expressed by several activists and members of the non-government organization officially registered in Malaysia, namely, *Pertubuhan Masyarakat Indonesia (Permai)* or the Indonesian Community Association in Penang Island. In addition, their poor English communication skill, which is considered an elite language among the working community, is also one of the reasons for the creation of this academy. Besides, it also has an impact on their careers. According to an analysis conducted by the Human Resources section of some companies, Indonesian workers performed far better than those from other countries but were constrained by their poor English skills. Due to this, the *Permai Penang* together with the Indonesian Postgraduate Students' Academic Forum at University Sains Malaysia initiated an English language training program named English Academy Bengkulu Malaysia. This program is carried out 2 days a week in the morning (9–11 am), afternoon (3–5 pm), and night (8–10 pm) due to the different working hours of the migrants. It was implemented in November 2017 and conducted by two main instructors. Based on the data obtained from the lecturers, in August 2019, a total of 320 people had joined the program since its inception. Some workers

have completed this program which lasts for 5 months and has raised their standard of living by getting a better paying job, returned to Indonesia, gained admission into a well-known tertiary institution, and have been successfully promoted.

Based on the above-listed problems, an educational development research method was used to develop teaching material products or learning resources for English language training programs specifically for Indonesian migrant workers. The research stages are explained in the next section.

32.2 Research Method

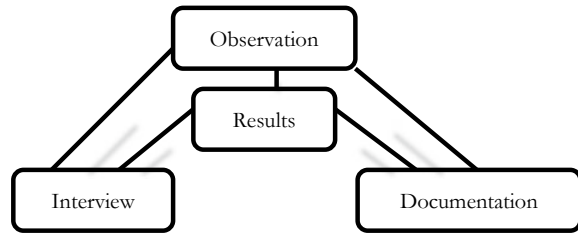
The current study is an educational development research aimed at developing English teaching materials for Indonesian migrant workers. Latief (2012) defines it as a research design used to develop educational products such as curriculum, syllabus, textbooks, learning media, modules, assessment instruments, etc. Furthermore, the ASSURE model developed by Molenda et al. (2008) which is an abbreviation of analyzing learner characteristics was used to state performance objectives, select methods, media, materials, as well as utilize technology, which requires learner participation, evaluation, and revision. Several steps have been carried out, such as obtaining information consisting of identifying problems, choosing ways of solving problems and theoretical studies, defining concepts and arranging the developed teaching materials in the form of modules, conducting validation by experts in the field of developing English materials, revising the content based on expert input, and verification. It also evaluates the trials, revisions, and validations based on input obtained from program participants and teachers during the tryout process. The semi-structured interview method was used to obtain data which seem to be more open and flexible.

According to Al-Nassar (2010), semi-structured interviews consist of structured and unstructured data, which allows previously designed and additional questions. A total of 60 students and 2 teachers were interviewed and the analysis of program on participants' needs, the required English teaching materials, the opinions of participants and teachers on the type of class needed, their favorite learning techniques, and main interest was performed. The results of this analysis are the main foundation used to develop the teaching materials. Furthermore, the respondents also participated in the testing phase of the products.

32.2.1 Data Analysis

While processing data for this study, the researchers used technical triangulations and source triangulation, where technical triangulation consist of data collection techniques including observations, interviews, and documentation to get the data from the same sources (Lexy 2008), while source triangulation is data collection

Fig. 32.1 Triangulation scheme. Adapted from Moleong (Lexy 2008)



techniques from different sources (English teachers and participants) with the same method (interviews) and also analyze the results obtained from the answers of the interview given by participants and teachers. Triangulation technique is a data collection technique that combines various existing data collection techniques and data sources (Sugiyono 2010). Triangulation in credibility testing is defined as checking data from various sources with various ways and various times (Suyanto 2008) (Fig. 32.1).

32.3 Results and Discussion

32.3.1 *The Results of Need Analysis*

The semi-structured interviews were conducted on 60 participants and 2 teachers. This step is very important to obtain all the information needed in developing the teaching modules (Hakim and Abidin 2018). It consists of six points, namely, the favorite material and learning activities, opinions on available teaching materials, interest in learning using audiovisual and social media, as well as the preferences in the illustration of English materials needed (Table 32.1).

Based on the data collected, 45 participants stated that they liked the speaking material in learning English, while 15 students were interested in grammar. In the next question related to the learning activities, as many as 30 participants were very happy to learn English through role-playing activities, 20 people liked the business conversation activities, while 10 people preferred reading text activities. Furthermore, the third question related to the participants' opinions on the available teaching materials has as many as 50 people who considered that it could not meet their expectations, while 10 people considered it to be sufficient. Related to this case, the teachers also acknowledged that the materials provided do not specifically address the needs of migrant workers.

Regarding the interest in learning using audiovisual material, 45 participants of the total number liked teachers delivering lecturers through this medium to reduce the boredom. Furthermore, 10 participants did not really like learning using audiovisuals, and 5 people did not care.

Table 32.1 The percentage of need analysis's answers for participants

No	Questions of need analysis (students)	Answers
1	Favorite subject in learning English	1. Speaking (75%) 2. Grammar (25%)
2	Favorite learning activity	1. Role-play activity (50%) 2. Business conversation activity (33.33%) 3. Reading text activity (16.66%)
3	Students' interest in learning using audiovisual material	1. Interested 75% 2. Not interested 16.66% 3. Did not care 8.33%
4	Learning English using social media	1. Agree 100%
5	Suggestion related to their teaching materials	1. More teaching material and practice sheets (50%) 2. Add more pictures in the book (33.33%) 3. The physical side of teaching material that is elegant with pleasant designs (16.66%)

Furthermore, interview participants' interest in learning English using social media was analyzed. All respondents stated that using it in the current digital era is very important and helpful as it helped them deal with their tight working hours, which limited in-class learning.

The last question addressed the preferences of participants with 30 people of the respondents requesting more teaching material and practice sheets for after-class practice. However, 20 people of respondents needed a form of teaching material that used more illustrations to make it look more interesting and understandable, while 10 people were in need of the physical side of teaching materials that are elegant with pleasant designs.

In addition to gathering requirement analysis to program participants, interviews were conducted on two English teachers at this academy, with the aim of obtaining various information related to the teaching and learning process. The teachers' opinions regarding the interests of Indonesian migrant workers, the availability of appropriate teaching material, the obstacles encountered, and their suggestions were also analyzed.

According to these teachers, students are often excited at the initial stage and tend to feel bored and easily distracted by other individuals later. However, it is not uncommon for participants to feel uninspired or even sleepy when a new lesson is about to start, rather a fatigue after working for about 10–12 h. This is subsequently followed by the availability of teaching materials in the academy, which was very limited and entirely summarized from several sources.

Furthermore, the obstacles often found by teachers are related to the consistency of the learning participants, as they were not formally bound like an institution or course-training institute. Three batches were run concurrently, with large numbers of participants at the beginning, which were drastically reduced at the end of the program. Therefore, the teachers advised for the development of teaching materials

or modules capable of meeting the requirements of program participants with familiar topics related to their daily lives.

32.3.2 The Result of Developing the Teaching Material Products

The teaching materials designed for English lessons are focused on speaking and writing activities. This is consistent with the results obtained by analyzing the program participants and teachers who are directly related to the needs of an Indonesian migrant worker in Malaysia. Besides, these materials tend to motivate the participants of this academy to improve their English skills using modules and learning support videos obtained from YouTube. The topics covered in the teaching module of the results of this research development are daily conversation, business communication, basic writing, speech delivery, news reading, and tourism conversation. These topics were chosen by considering the needs and interests of participants, which is expected to increase the consistency of Indonesian migrant workers in the English Academy Bengkulu Malaysia (Fig. 32.2).

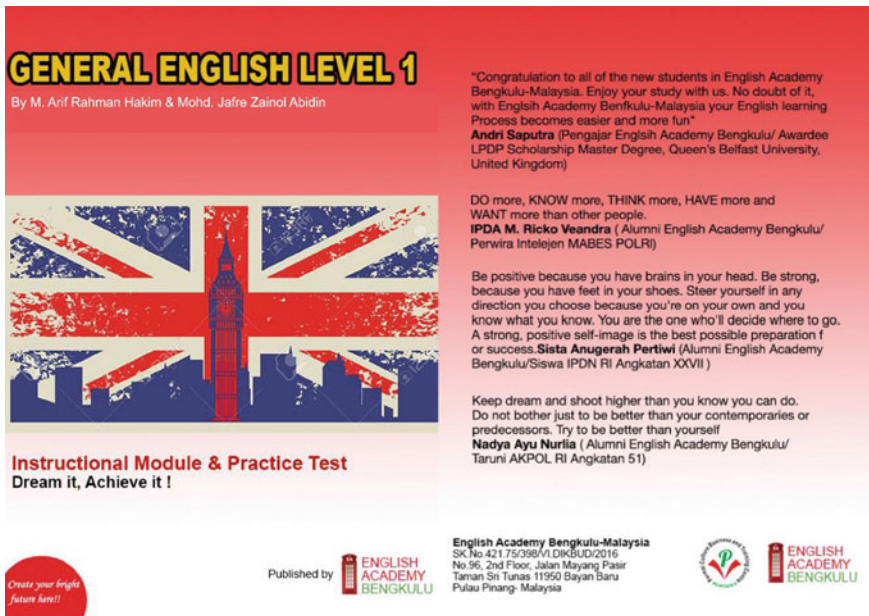


Fig. 32.2 The cover for teaching material product

32.3.3 Learners' Participation

It is necessary to test the product to acquire some information related to the materials which need to be revised and improved in order to determine the effectiveness of the teaching materials developed (Latief 2012). Therefore, tryouts were conducted using 60 participants in 12 meetings and tested by the teachers by applying the material developed during the teaching and learning process. In this tryout, researchers acted as collaborators and observers in the classroom and the teachers had the role of applying teaching material product that had been developed by researchers to make the teaching-learning process to be natural (Hakim and Abidin 2018). In tryout process, researchers also made several field notes related to several important aspects based on the situation that occurred in the tryout process. In addition, the effectiveness of the teaching material developed was used in ascertaining participants' activeness, interests, and opinions. In general, during the analysis, it was discovered that participants were very enthusiastic in their respective classes.

32.3.4 Revision of Teaching Materials' Product

After conducting a tryout, the product was revised based on the results and suggestions from both participants and teachers. In this stage, the researchers revised the shortcomings and weaknesses of the material developed (Sismiati and Latief 2012). The revision was based on the changes in inappropriate teaching material, spelling errors, as well as the addition of several examples and practice materials. This was followed by validating the teaching material product by experts experienced in developing the products using modules, videos, strategies, language, and conformity while analyzing the needs of program participants and teachers. According to Asiyah et al. (2018), this step is very important to develop a good product. In addition, all suggestions from experts were used to develop and make the product better.

32.4 Conclusion

In this study, the teaching material developed is in the form of complementary modules aimed at completing and covering the shortcomings associated with the main modules used in English-speaking classes at English Academy Bengkulu Malaysia in Penang. This module-shaped product was developed through the research process of developing the ASSURE model adopted by Molenda et al. (2008) in stages by analyzing the needs of students and teachers, product development, expert validation, trials, and final revisions. This module also aims to assist teachers in solving some of the problems they face with Indonesian migrant workers while teaching. However,

there were some obstacles associated with the module development process, such as heterogeneity of the opinion of the English class participants on the expectations of teaching materials and learning methods. Therefore, additional interviews were conducted by giving more specific questions to the participants, thereby providing a clear picture of the English-speaking class. The teaching material products in the form of modules produced in this study amounted to six topics. However, after going through the stages of expert validation, it was trialed to 12 meetings with 60 Indonesian migrant workers. This stage was carried out to determine the suitability of the teaching products developed with its needs and effectiveness. Based on the results of the tryouts conducted, the modules obtained a good reception response from both program participants and teachers.

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Chapter 33

Acceptance of Food Waste Recycling Products among Public toward Sustainable Food Waste Management



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Abstract In Malaysia, sustainable management of food waste has become a critical issue for the authorities to handle. Insufficient number of landfills to dispose of all the food waste has caused a great concern to manage the piling of food waste. Alternatively, recycling food waste into beneficial products is seen to be a great solution in managing the issue. However, little is known about how this alternative will impact the society in Kuala Terengganu area. This study is conducted to examine the acceptance of public on food waste recycling products based on knowledge, behavior, and emotions. A total of 200 respondents were randomly selected from four different areas of Kuala Terengganu to answer a set of questionnaires. Nonetheless, only 193 questionnaires were completed and returned with reliable and meaningful results. Descriptive analyses and chi-square test analysis were used for the empirical analysis. Results revealed that knowledge has the highest mean among the three variables: knowledge, behavior, and emotion. This proves that knowledge is the most prevalent factor toward public acceptance of food waste recycling products. In addition, the study also found that the public would consider to have recycled food waste as it is cheaper, more beneficial, and acceptable. Besides, the public agreed that recycling the food waste is a great effort for sustaining healthier environment and boosting economy. Thus, the study will contribute to the community goodwill, provide modest reductions in disposal costs, as well as improve Malaysia's environmental sustainability.

Keywords Food waste · Sustainable food waste management · Recycling food waste product

33.1 Introduction

Malaysia, which is a part of Southeast Asia, is recognized for its good variety of food since it is a multiracial country (Abd Ghafar 2017). Unfortunately, this specialty of

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Malaysia is also revolved into a cultural waste. In 2012, a study conducted by *Jabatan Pengurusan Sisa Pepejal Negara (JPSPN)* stated that food waste is the largest type of waste contributed by Malaysians, where 31–45% are from overall solid waste generated. Solid Waste Corporation of Malaysia (SWCorp) reported a statistic that showed in the year 2015 food waste in Malaysia reached 15,000 tons daily, which also included 3,000 tons that was still fit for consumption and should not have been discarded. Since Malaysia is currently experiencing urbanization and population growth, Papargyropoulo et al. (2015) indicated that this development contributes to the positive increase of solid waste generated. The study showed that waste generation increased from 0.5 kg per capita daily in the 1980s to more than 1.3 kg per capita daily in the year 2009. According to Ministry of Housing and Local Government (MHLG), domestic food waste volume stands at 8,745 tons daily which is around 3,192,404 tons yearly representing more than 38.32% of total waste produced compared to restaurants (Loo 2011).

In 2012, JPSPN listed several strategies to sustain the environment, economic, social, and global concerns in Malaysia. One of the strategies includes implementing the regulation of recycling food waste. This regulation has to be implemented as it will help in developing a more systematic food waste management leading it to an improved economy and a positive environmental effect. This is one of the strategies suggested by Papargyropoulou et al. (2014) to sustain food surplus and waste management besides re-use, recovery disposal practices, and more. This food waste recycling enforcement would improve both household and national economies by producing new products recycled from food waste which will lead to business opportunities for third parties. This recycling activity would also help in reducing environmental pollution and contagious diseases. Thus, the acceptance and usage of food waste recycle product could be one of the alternatives to sustain the environment as well as provide a business opportunity to industries and public household (Takata et al. 2012; Papargyropoulou et al. 2014; Nawawi et al. 2017).

33.2 Problem in Context

According to Papargyropoulo et al. (2015), Malaysians generate about 36,000 tons of waste per day, and almost 15,000 tons of that is food waste. The study revealed that about 8,000 tons which is almost 60% of the food waste is avoidable. Out of this 8,000 tons, 3,000 tons goes to landfills daily even though they are still edible. This number could have fed around two million people. A study done by SWCorp has discovered that the number of food waste can increase by up to 50% during the festive periods. This has been contributed most by the households, followed by night markets and Ramadhan bazaars. Apart from these three contributors, food courts and food and beverage sectors in Malaysia also contributed much to the disposal.

Undoubtedly, food waste is socially and morally unacceptable due to the fact that many people still live in poverty and do not have enough food to consume even a piece of bread (Abdul Razak 2017). According to Ocicka and Raźniewska

(2018), as global population is expected to rise in the future, food waste elevates the constraints of food shortage and availability. Wasting food is an offense to those who are facing food insecurity because while thousands are sleeping in hunger, households and restaurants alike are dumping away large volumes of edible food waste everyday (Jereme et al. 2017). Hence, reducing food waste is a compulsory step toward reducing hunger issues in the world.

However, the ugly truth is, food waste is still ending up in Malaysia's landfills despite the scarcity of land and space. As of 2016, Malaysia has 1,170 disposal sites and only 4 of them have sanitary landfills (Papargyropoulo et al. 2015). The increasing number of wastes would require larger space for landfills, thus higher cost is needed in order to manage the waste produced. After the food waste goes to the landfills, it will be decomposed and disintegrated producing methane gases which have a severe impact on local weather change and global warming. Environmentally, food waste leads to water pollution since the liquid remnant of the waste will be absorbed and flowed to water sources. In addition, food waste brings out unpleasant smell and attracts pests that actually pollute the air and lead to several contagious diseases and health concerns. According to Godfray et al. (2010) as cited by Ocicka and Raźniewska (2018), food waste prevention has become an important environmental topic as it provides a compelling opportunity to diminish the ill environmental impacts caused by food consumption habits. Due to this problem, food waste recycling product is seen to be a part of the solution. Recycling is a vital aspect of managing the food waste issue as it assists in reducing food waste, and maintaining environment sustainability, economically, socially, and globally (Haviland et al. 2013). Therefore, this study is worth (i) to determine the acceptance of public on food waste recycling product and (ii) to identify whether food waste recycling is a part of solution in food waste management.

33.3 Material and Methods

33.3.1 Research Design

This research was conducted with a purpose of discussing public acceptance of food waste recycling products. A cross-sectional study of descriptive research design was used, and it was conducted using the quantitative research method.

33.3.2 Population and Sampling

A convenience sampling technique was used where households among citizens of Kuala Terengganu were randomly chosen. According to Haviland et al. (2013) cited by Nawawi et al. (2017), municipal solid waste in Kuala Terengganu has increased

drastically over the years. Kuala Terengganu City Council (MBKT) collected 300 tons of solid waste per day for clean-up operations in the city. It was also reported that the solid waste collection and disposal costs in Kuala Terengganu are around RM7.75 million a year (Nawawi et al. 2017). Therefore, Kuala Terengganu needs to seriously address its waste management issues and has been selected for the purpose of study.

According to Jereme et al. (2017), food wastage is higher in urban area due to different income levels of the citizens. A household is defined as one or more person living in the same house unit such as an apartment, a mobile home, or any single room that is occupied (Roscoe 1975). Since all the respondents are believed to live in a house and generate municipal solid waste, thus they are categorized as household. The household population of Kuala Terengganu is about 186,100 with an immensity of land of 20,776 hectare. However, Stevens' (1996) rule of thumb indicated that the sample size of respondents should be larger than 30 and smaller than 500 which is appropriate for research to be done. Based on this, a total of 200 questionnaires were distributed to respondents who are currently residing or have been residing in Kuala Terengganu for at least 2 years. Hence, only 193 questionnaires out of a total of 200 questionnaires were completed and returned with reliable and meaningful results. The areas selected in Kuala Terengganu are the nearby areas of PB Square, Plaza Paya Bunga, Pasar Payang, and Kuala Terengganu Express Bus Terminal.

33.3.3 Research Instrument Design

The research instrument was developed from a review of previous literatures and studies. The instruments were prepared in two languages, Bahasa Malaysia and English, to avoid any misunderstanding from the respondents. The questionnaire is divided into two sections. Section A consists of the respondent's demographic variables such as gender, age, marital status, and level of education. Section B consists of the questions of the acceptance of public on food waste recycling product. Section B contains three sub-sections which are (B1) knowledge, (B2) behavior, and (B3) emotion. Sub-section (B1) measures the knowledge of public on food waste recycling using questions based on Likert scale ranging "1 = True", "2 = Not sure", and "3 = False". As for sub-section (B2), it measures the behavior of public toward food waste using dichotomous (Yes/No). Similarly, for sub-section (B3), the emotion of public on food waste recycling product is measured also using dichotomous (Yes/No). A pilot study was carried out to test the suitability of the questionnaire for this study. The pilot study was conducted with 30 randomly selected citizens in Dungun area. During the pilot study, respondents were encouraged to add comments and suggestions to the extent to which the instructions and contents of the questionnaire itself are clear, understandable, complete, and neutral. In addition, peer critiques were also allowed during this period for their comments on the questionnaire's contents.

33.3.4 Data Collection

Questionnaire distribution took place for 1 week in October 2018 at selected areas in Kuala Terengganu which are PB Square, Plaza Paya Bunga, Pasar Payang, and Kuala Terengganu Express Bus Terminal. The questionnaires were distributed during the weekends (Friday and Saturday) so that a wide range of respondents could be reached compared to weekdays. The respondents were randomly selected in the specific areas and given a set of questionnaires. A total of 193 questionnaires from 200 questionnaires were successfully answered by respondents with reliable and meaningful results. The questionnaires were then coded and keyed in Statistical Package for Social Science (SPSS) Version 2.0.

33.4 Results and Discussion

33.4.1 Sociodemographic Characteristics of the Respondents

Table 33.1 shows the sociodemographic characteristics of the respondents. Most of the respondents are females with 61.1%, while the rest are male respondents with 38.9%. The result is not surprising as females are seen shopping around the city compared to males. Besides that, respondents of age 30 years and above are the majority standing at 49.2%, followed by respondents aged between 22 and 25 years at 22.3%, respondents between 18 and 21 years at 17.1%, and lastly respondents between 26 and 29 years of age at 11.4%. This is expected as people above 30 years of age are seen as being most of the sellers around Pasar Payang, while teenagers between 22

Table 33.1 Sociodemographic characteristics of the respondents

		Frequency	Percent
Gender	Males	75	38.9
	Females	118	61.1
Age	18–21 years old	33	17.1
	22–25 years old	43	22.3
	26–29 years old	22	11.4
	30 and above	95	49.2
Marital status	Single	82	42.5
	Married	111	57.5
Education level	SPM	100	51.8
	Diploma	29	15.0
	Bachelor	51	26.4
	Master	12	6.2
	Ph.D.	1	0.5

and 25 years are seen shopping around in the urban area of Kuala Terengganu. With regard to the respondents’ age, it is expected that the education level information gathered presented 51.8% of respondents are with SPM certificate as the majority, 16.4% of respondents are Bachelor’s degree holders, 15.0% of them possess Diploma certificate, 6.2% of the respondents are Master’s degree holders, and the least 0.5% among the respondents possess Ph.D. certificate. Lastly, referring to the table on marital status category, an average of 42.5% of the respondents are single while the other 57.5% are married. This shows that the majority of respondents are single respondents hanging out in urban areas compared to married respondents.

33.4.2 Descriptive Statistical Analysis on Knowledge, Behavior, and Emotion

Tables 33.2, 33.3, and 33.4 present the descriptive statistic for knowledge, behavior, and emotion on food waste recycling product, respectively. Respondents were seen to have a good knowledge of food waste management as 65.3–90.1% of the respondents manage to provide correct answer for the questions in Section (B1). Most respondents answer the definition of food waste recycling correctly (90.1%) followed by benefits of food waste recycling (83.7%), recycling method for food waste (70.5%), and the

Table 33.2 Descriptive statistic (knowledge)

	Percent		
	Correct	Not sure	Wrong
Definition of food waste recycling	90.1	2.3	7.6
Disposal method for food waste	65.3	19.7	15.0
Recycling method of food waste	70.5	1.3	28.2
Benefit of food waste recycling	83.7	9.4	6.9

Table 33.3 Descriptive statistic (behavior)

	N	Mean
I simply throw away my food waste into dustbin	193	0.77
I do not separate waste into a different bin	193	0.55
I do not recycle my food waste	193	0.70
I do not produce food compost	193	0.78
I do not have time to manage food waste	193	0.69
I do not have proper facilities at home	193	0.82
It is troublesome to segregate waste	193	0.54
Valid N (listwise)	193	

Table 33.4 Descriptive statistic (emotions)

	N	Mean
I feel insecure to use food waste recycling products	193	0.50
It is unpleasant to separate food waste	193	0.50
I feel disgusting to consume recycled food waste	193	0.47
I am not confidence that recycling practices beneficial	193	0.11
I do not believe food waste recycling as business opportunity	193	0.11
Overall, I am not satisfied with current waste management	193	0.26

best disposal method for food waste (65.3%). Likewise, in Table 33.3, results present the descriptive analysis of respondents' behavior. The results show the highest mean score of (M = 0.82) representing the absence of facilities at home to manage food waste. The least mean score is (M = 0.54) representing that separating food waste is troublesome. Lastly, referring to Table 33.4 representing the descriptive statistics for emotion shows that the highest mean score of (M = 0.50) represents the public feels insecure to use or purchase food waste recycling products and feels unpleasant to separate waste. Unsurprisingly, this is expected as food waste recycling among Malaysians is still new and they are unfamiliar with the methods of disposal.

33.4.3 Analysis of Chi-Square Test on Knowledge, Behavior, and Emotion

Table 33.5 shows a cross-tabulation between knowledge and public acceptance of food waste recycling products. The percentage for knowledge shows that 57.5% of the respondents are ready to accept recycling method to manage food waste, while another 42.5% of respondents are not ready to accept the method of disposal. The Pearson Chi-Square value calculated is 31.411, and the Asymptotic significance value is 0.000 proving that they are both related. This shows that knowledge is related with the acceptance of the public and concludes that the variables absolutely affect the public acceptance of food waste recycling product.

Table 33.6 shows a cross-tabulation between behavior and public acceptance of food waste recycling products. The behavior percentage shows that 57.5% of the

Table 33.5 Analysis of Chi-Square test on knowledge and acceptance

		Knowledge (%)	Pearson's Chi-Square value	Asym. Sig. (2-sided)
Acceptance	No	42.5	31.411	0.000
	Yes	57.5		
Total		100.0		

Table 33.6 Analysis of Chi-Square test on behavior and acceptance

		Behavior (%)	Pearson's Chi-Square value	Asym. Sig. (2-sided)
Acceptance	No	42.5	39.950	0.000
	Yes	57.5		
Total		100.0		

Table 33.7 Analysis of Chi-Square test on emotions and acceptance

		Emotions (%)	Pearson's Chi-Square value	Asym. Sig. (2-sided)
Acceptance	No	42.5	39.950	0.000
	Yes	57.5		
Total		100.0		

respondents are ready to accept recycling method to manage food waste, while the other 42.5% of respondents are still not ready. The Pearson Chi-Square value calculated is 39.950, and the asymptotic significance value is 0.000, which is smaller than alpha value ($\alpha = 0.05$), proving that behavior does affect public acceptance of food waste recycling products.

Table 33.7 shows a cross-tabulation between emotion and public acceptance of food waste recycling products. The percentage for emotion shows that 57.5% of the respondents are ready to accept recycling method to manage food waste, while the other 42.5% of respondents are not ready to accept the method of disposal. The Pearson Chi-Square value calculated is 66.251, and the asymptotic significance value is 0.000. On comparing with the alpha value ($\alpha = 0.05$), it is observed that they are both related, and emotion does affect the acceptance of public on food waste recycling products.

33.5 Discussions

The most apparent findings of this research are proving that knowledge is the highest affecting factor toward public acceptance of food waste recycling products among the three variables studied. This research has some levels of similarities with those of Papargyropoulou et al. (2014), Nawawi et al. (2017), and Abdul Razak (2017), which stated that knowledge contributes to the public acceptance of food waste recycling. However, the public's knowledge on food waste recycling is still low, and the government should play an important role in exposing the public on the benefits of recycling food waste in sustaining environment as well as improving local and national economy. A noticeable finding of current study is that most respondents agreed that composting and landfill are two famous methods applied in Malaysia compared to recycling. This can be seen where the number of recycling food waste campaigns is literally lower than anti-litter campaign. It also appears that the public

is not aware that food waste can be recycled into other beneficial products as little information from authorities and media being given on the alternatives of disposal methods. On the bright side, majority of the respondents agreed that recycling food waste has a significant impact on achieving environmental sustainability and improving the economy. This is supported by several studies done by Papargyropoulo et al. (2015), Nawawi et al. (2017), and Takata et al. (2012), which stated that food waste recycling products could be one of the alternatives to sustain the environment and also used as a business opportunity to certain industries and households.

In addition, majority of the respondents agreed that the absence of proper facilities at home is the main reason why they do not separate food waste from other waste. They also find the separating process to be troublesome. This point is agreeable as most households are provided with a dustbin resulting in food waste directly ending up in landfills before being processed first. This is supported by a study conducted by Othman and Yuhaniz (2013) where tenants of terrace houses in Shah Alam do not practice recycling regularly as there is no facility provided for waste separation, less space at home, and the practice of recycling is felt to be troublesome.

Referring to what has been discussed about knowledge variable regarding disposal methods for food waste, it is proven that the public is well informed that composting is one of the best alternatives to dispose food waste. However, in terms of practices, public's behavior seems to result otherwise as they do not practice the disposal techniques. This is expected as the public is not exposed to how exactly composting should be done and what facilities needed. As far as they are concerned, composting is simply burying food waste into the soil as fertilizers. A study by Nawawi et al. (2017) postulated Bokashi method as one of the food waste composting methods that appears to be profitable in the long term and suggested that the method is to be introduced as a business opportunity among households to boost their economy. The study also concluded that the public is willing to initiate food waste recycle business if the process is convenient and engaged with high anticipations with the local authority to initiate the recycling business regardless of their moderate interest. Aside from composting, recycling food waste appeared to be the least informed type of disposal method. This leads to the behavior of not separating waste and also not recycling food waste. It is understood that the practice is still unfamiliar among Malaysian, as the only disposal techniques mostly practiced in Malaysia are composting and landfill. Furthermore, the public also claimed that they do not have much time to separate food waste and other waste, adding that majority of the respondents are busy sellers at Pasar Payang.

On another note, respondents showed negative emotion as they feel insecure and disgusted to purchase food waste recycling products as they understand that food waste is referred to leftover food. Besides that, from the Chi-Square test analysis, both behavior and emotion variables proved that they are related to the public acceptance of food waste recycling products. They believe that leftover food cannot be recycled into other beneficial products. Some of them can hardly accept innovated food products from food waste unless if the products are from food by-products such as corn cob or carrot peels. Apart from that, other beneficial products such as fertilizer, animal feeds, and soap recycled from food waste may be acceptable as long as it is not food

for human consumption. Moreover, the public also displayed an unpleasant feeling of separating food waste and other types of waste. This might have happened because they do not have much time or proper facilities to separate waste at home. Because of this, the government should act on enforcement of food waste recycling as it may change public perspective. Even though information about food waste recycling has been introduced, the practice of separating food waste cannot be incorporated into daily routine if there is no enforcement from the local authorities.

33.6 Conclusion

The findings of this research ascertain that knowledge, behavior, and emotions do affect public acceptance of food waste recycling products. Interestingly, majority of the findings showed that knowledge has a greater impact on the acceptance of public addressing food waste recycling products compared to behavior and emotions. Furthermore, the recycling of food waste is a successful practice to resolve piling of food waste that keeps increasing day by day as practiced by other ASEAN countries such as Thailand and Singapore. Food waste that is recycled into other beneficial products such as fertilizer, animal feed, and from recycled oil to soaps could improve the local and national economy as it can be a business opportunity for households and the food industry. In fact, a new business opportunity could be established focusing on new food innovation made from food waste by-products and be commercialized in the market. Since there are many other studies proving the effectiveness of recycling food waste on sustaining the environment and improving the economic, the government is suggested to play the main role in raising public awareness about the practices. Incorporate several bodies to start practicing food waste recycling as another option of disposal method of food waste besides landfill, which could be a great move where it takes everyone to get involved in this effort. Authorities such as JPSPN and SWCorp are responsible to educate the public on food waste recycling as an alternative to the disposal method. Ultimately, this research supports the government in pursuing green growth for sustainability and resilience as the government's target is to achieve a 22% recycling rate among Malaysians in Eleventh Malaysia Plan (MP 11). In conclusion, producing food waste into beneficial products will give a better solution for the proper food waste management in pursuing government focus in achieving environmental sustainability as well as improving local and national economies.

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Chapter 34

Perceived Ease of Use, Perceived Usefulness, and Behavioral Intention: The Acceptance of Crowdsourcing Platform by Using Technology Acceptance Model (TAM)



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Abstract This study aims to identify the relationship between perceived ease of use, perceived usefulness, and behavioral intention: the acceptance of crowdsourcing platform by using TAM model. A survey questionnaire was designed as a research instrument to evaluate respondents and find out the relationship between perceived ease of use, perceived usefulness, and behavioral intention. A total of 48 questionnaires were distributed via online among students of a business faculty from a public university in Kelantan. The data collected was analyzed using SPSS 21.0, and this study found that all the independent variables have significant positive relationship with behavioral intention. In addition, for all three variables which were perceived ease of use, perceived usefulness, and behavioral intention, the results indicate that all variables' reliabilities were high.

Keywords Digital workforce · TAM model · Perceived ease of use · Perceived usefulness · Behavioral intention

34.1 Introduction

The term “crowdsourcing platform” was initially introduced by Howe (2006), which is defined as the outsourcing a function or task traditionally done by a designated agent to an undefined network of laborer carried out by a company or a similar institution using a type of “open call” (Kaufmann et al. 2011). In addition, according to Soliman (2012), crowdsourcing platform is a method for companies in utilizing the power of the crowd through Internet-based platforms. Subsequently, it creates a relatively new phenomenon. Soliman (2012) added that the media and entertainment companies

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have been struggling to adjust to the rapidly changing, technology-enabled industry eco-system, and many companies are yet to find their spot on the new map over the years. By supporting the crowdsourcing, with the combination of two elements, IT and sharing economic had contributed to new approach of income generation over the technologies and skill workers.

In the Malaysian context, for instance, research has shown that teachers in Malaysia may not be adequately prepared to integrate ICT in the learning environments (Wong et al. 2006). However, in 2002, the Malaysian Ministry of Education (MMOE) commissioned a study to assess the impact of the Smart School Pilot Project on teaching and learning (Wong et al. 2006). As the result was encouraging, it clearly shows that students and teachers had benefited from the technology-supported project (Wong et al. 2006).

In the context of this study, positive attitudes toward the computer use are more likely to be accepted by student and teachers in addition to the usage of computers in the classroom (Wong et al. 2006). Students nowadays spend much of their time with technologies, in playing multimedia, interactive and social online games, and entertainment technology in general (Junco et al. 2010). In fact, today's students are mostly Net Generation. They are considered as consumers of technology as they entered the university (Junco et al. 2010). In a way, this creates a gap between the new and previous generation in ways that previous generations barely understand. The new generation tends to associate with technology more with playfulness than with learning (Padilla-Meléndez et al. 2013). As the influence of the game and enjoyment, considering gender differences, regarding the intended use and the use of technology to support teaching and learning processes would produce interesting results, the objectives of this study are (1) to know the relationship between perceived usefulness and behavioral intention and (2) to know the relationship between perceived ease of use and behavioral intention.

34.2 Literature Review

34.2.1 Crowdsourcing Platform

One of the most interesting developments is the creation of general-purpose markets for crowdsourcing platform diverse tasks (Kittur 2010). These markets represent the potential for accomplishing work for a fraction of the time and money required by more traditional methods (Kittur 2010). According to Jain (2010), while crowdsourcing platform initiative provides several benefits for the participants involved, it also poses several novel challenges to effectively manage the crowd. Blohm et al. (2013) and Kittur (2010) contended that crowdsourcing platform has worked especially well for certain kinds of tasks, typically, ones that are fast to complete, incur low cognitive load, have low barriers to entry, are objective and verifiable, require little expertise, and can be broken up into independent subtask (Soliman 2012).

34.2.2 Technology Acceptance Model (TAM)

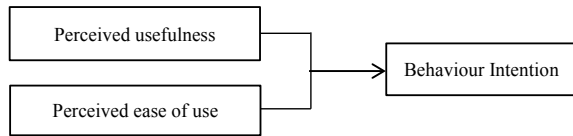
TAM has proven to be a useful theoretical model in helping to understand and explain the used behavior in information system implementation (Legris et al. 2003). It has been tested in many empirical researches, and the tools used with the model have proven to be of quality and to yield statistically reliable results (Legris et al. 2003). According to Venkatesh and Davis (2000), technology acceptance model (TAM) explains the perceived usefulness and usage intentions in terms of social influence and cognitive instrumental processes, and the goal of this research is to develop and test a theoretical model of the effect of system characteristics on user acceptance of computer-based information systems (Venkatesh and Davis 2000). This model is being developed with two major objectives in mind (Davis 1985).

First, it should improve the understanding of user acceptance processes, providing new theoretical insights into the successful design and implementation of information systems (Davis 1985). Second, TAM should provide the theoretical basis for a practical “user acceptance testing” methodology that would enable system designers and implementers to evaluate the proposed new systems prior to their implementation (Davis 1985). Applying the proposed model in user acceptance testing would involve demonstrating system prototypes to potential users and measuring their motivation to use the alternative systems (Davis 1985). Such user acceptance testing could provide useful information about the relative likelihood of success of proposed systems early in their development, where such information has greatest value (Davis 1985). For better understanding of the development and the emergence of TAM, a brief description of theories and models, which preceded and influenced its appearance, is required (Marangunić and Granić 2015). At the very beginning of technology entering users’ everyday life, there was a growing necessity for comprehending reasons why the technology is accepted or rejected (Marangunić and Granić 2015).

34.2.3 Behavior Intention

Flow theory emphasizes the role of a specific context rather than individual differences in explaining human-motivated behaviors and provided there is no consensus on how to measure flow; playfulness is a concept that is used most widely to measure it (Lee et al. 2009). Perceived enjoyment is the extent to which the activity of using a specific system is perceived to be enjoyable, aside from any performance consequences resulting from system use (Venkatesh and Davis 2000). Computer playfulness has been defined as “the degree of cognitive spontaneity in microcomputer interactions” (Webster and Martocchio 1992). Playfulness is a complex variable, which includes individual’s pleasure, psychological stimulation, and interests (Flow 1990). Perceived playfulness has been considered together with TAM quite since the beginning of it (Chung and Tan 2004; Venkatesh and Davis 2000).

Fig. 34.1 Conceptual framework of technology acceptance model



Technology acceptance model (TAM) with or without modifications has been successfully applied to a wide range of empirical studies to predict and explain acceptance and adoption of a variety of technologies such as electronic banking (Al-Smadi 2012), mobile education (So et al. 2012), and social networks (Pinho and Soares 2011; Shin and Kim 2008), as well as to understand consumer markets for technological products and services such as online shopping (Vijayasathy 2004) and mobile shopping (Ko et al. 2009).

According to Davis (1989), the attitude of an individual is not the only factor that determines his use of system, but it is also influenced by the impact that the system may have on his performance; that is whether the student does not really use an information system, the possibility that student will use the system is high if they perceived the system will increase their performance. According to Dillon and Morris (1996), the model hypothesizes a direct link between perceived usefulness and perceived ease of use, which suggests that with two systems offering the same features, the one which is easier to use will be perceived as more useful by the user as demonstrated in the conceptual framework in Fig. 34.1.

34.3 Methodology

The research design is a plan and procedure to explain how the researcher sets out specific details of the research enquiry which enables the researcher to arrive at valid findings, comparisons, and conclusions (Kumar 2019). The portion of the population is 57 randomly picked students. For the purpose of this study, the researcher chose non-probability sampling design of convenience sampling. The sample of this study consisted of students of the business faculty of one of the public universities in Kelantan. The researchers used Krejcie and Morgan's (1970) table, in determining a minimum of 48 respondents that were required to complete this research. The questionnaires were distributed to 57 students via online medium. The items in Section A of the questionnaire consist of demographic profile of the respondents and ranking of interest in using crowdsourcing platform. Section B of the questionnaire covers items related to independent variables on a five-point Likert scale. The five-point Likert scale represented number 1 for Strongly disagree, 2 for Disagree, 3 for Neutral, 4 for Agree, and 5 for Strongly agree. In terms of validity, it is often defined as the extent to which an instrument measures what it purports to measure. Validity requires that an instrument is reliable, but an instrument can be reliable without

being valid (Kimberlin and Winterstein 2008). The questionnaire was validated by experts on the subject matter. All the findings in the study were analyzed by the SPSS software.

34.4 Findings and Results

Out of 57 questionnaires distributed, only 48 questionnaires were returned; thus there’s only 84.2% of participation rate within the time period given. The demographic profile of this study is shown in Table 34.1. The demographic profile shows that there are 56.3% (27 respondents) male respondents and 43.8% (21 respondents) are females. The findings show that the highest age group of respondents was 21–23 years old of which 21 years old was 35.4%, 22 years old was 52.1%, meanwhile at age 23 years old was 12.5%. The highest number of respondents who answered the questionnaire was age 22 years old. Next, the highest percentage of respondents pursuing their degree was 77.1% of respondents. The lowest percentage was 22.9% of respondents pursuing their diploma.

Table 34.2 shows the descriptive statistics of all study variables. The mean for perceived ease of use (PEOU) was the highest, i.e., 4.37 out of 5, while perceived usefulness was 4.29 and the highest was behavioral intention (BI) at 4.27. These indicate that the respondents mostly agree to strongly agree to the items that have

Table 34.1 Demographic profile

Item	Details	Percentage (%)
Gender	Male	56.3
	Female	43.8
Age	21	35.4
	22	52.1
	23	12.5
Education	Diploma	22.9
	Degree	77.1

Table 34.2 Descriptive statistics, Cronbach’s alpha, Pearson’s correlation

Variables	PEOU	PU	BI
PEOU	(0.815)		
PU		(0.736)	
BI	0.768**	0.940**	(0.707)
Mean	4.37	4.29	4.27
SD	0.452	0.499	0.452

**Correlation is significant at the 0.01 level (2-tailed); Entries in parenthesis indicate Cronbach’s alpha values

been asked in the questionnaire. Table 34.2 shows that the highest item was perceived ease of use and perceived usefulness as it had the highest value which were 4.37 and 4.29, respectively, and this value was considered high. The lowest value in this variable was for behavioral intention in which the value was 4.27. Hence, it can be concluded that their perceived ease of use, perceived usefulness, and behavioral intention were at high level.

The first independent variable which is perceived ease of use (PEOU) indicated that $r = 0.768$ while $p = 0.000$. The result shows that there was a positive significant and strong association between perceived ease of use and behavioral intention. The second independent variable which is perceived usefulness indicated that $r = 0.940$ while $p = 0.000$. The result showed that there was a positive significant and strong association between perceived usefulness and behavioral intention. The result shows that there was a positive significant and strong association between both variables. Therefore, the findings confirmed that increasing perceived ease of use and perceived usefulness will increase the behavioral intention.

The first objective is to identify the relationship between perceived ease of use and behavioral intention with the Hypothesis: Perceived ease of use will have a positive effect on behavioral intention. The findings discussed above show that perceived ease of use has positive strong relationship with behavioral intention with $r = 0.768$, $p < 0.05$. Therefore, the hypothesis is accepted.

The second objective is to identify the relationship between perceived usefulness and behavioral intention with the Hypothesis: Perceived usefulness will have a positive effect on attitude. The findings showed that perceived usefulness has positive strong relationship with behavioral intention with $r = 0.940$, $p < 0.05$. Therefore, the hypothesis is accepted.

Students in this new era spend most of their time immersing themselves in technology, i.e., using multimedia software and applications, interactive and social online games, and entertainment technology in general (Junco et al. 2010). Junco et al. (2010) further explained that students nowadays are the consumer of technology that they are already tech-savvy when they arrived at the university. In fact, this creates a gap between the new generation and the older generation. The new generation may associate technology more with playfulness than with learning (Padilla-Meléndez et al. 2013). Padilla-Meléndez et al. (2013) mentioned that it was interesting to analyze the influence of the game and enjoyment, with regard to gender differences, regarding the intended use and the use of technology to support teaching and learning processes. This is clearly shown in the results demonstrated above.

34.5 Conclusion and Recommendations

Looking back at the research objectives of this study, which is (1) to know the relationship between perceived usefulness and behavioral intention and (2) to know the relationship between perceived ease of use and behavioral intention. The results have shown that both elements of TAM which are perceived ease of use and perceived

usefulness have positive strong relationship with behavioral intention. Therefore, it is important for organization to know the relationship of crowdsourcing platform between technologies. Crowdsourcing is highly unlikely to deliver the best educational experience on itself. Over the years, crowdsourcing has increasingly become a recognized sourcing mechanism for problem-solving in organizations by outsourcing the problem to an undefined entity or the crowd and is an alternate way of building the carrier for a sustainable living over the technology. This study has identified and proven the acceptance of crowdsourcing platform by using the TAM model among the students of a business faculty from a public university in Kelantan.

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Chapter 35

An Evaluation of Customer Rating, Online Review, and Management Response in Measuring Budget Hotel Performance: A Case of Seri Pauh Natural Motel, Perlis, Malaysia



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Abstract The hotel industry has embraced the existence of social media platforms as vital tools for communication, marketing, and promotions of budget hotels. Perhaps, in the era of intense competitive pressures, social media sites have become powerful to form customer attitudes toward the services through travel websites and social networking sites. Numerous studies have focused mainly on the brand chain hotel and not highlighted the budget hotel perspective. Thus, the present study investigates on how customer rating, online review, and management response affect the budget hotel performance. The study relied on the list of hotel guests gathered from the customer relationship management (CRM) database provided by Seri Pauh Natural Motel, Perlis, Malaysia. Data were collected from the sample of 120 customers by answering the questionnaire through social media applications such as Facebook and WhatsApp. Research findings have discovered that online hotel review is the most salient predictor of hotel performances followed by the customer rating. Furthermore, the management response is not the predictor which is claimed to affect the hotel performance. It was discovered that the more impressive the customers with the hotel reviews and excellent ratings, the higher the hotel performance. Thus, those

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hoteliers should emphasize responding to the negative reviews as well as providing the excellent service because these factors should be considered crucial in hotel marketing.

Keywords Budget · Hotel performance · Customer rating · Online review · Management response

35.1 Introduction

The tourism and hospitality industry has become a major player in the global economy and also serves as a contributor to the successful achievement of the Sustainable Development Goals (SDGs) (Jones and Comfort 2019). The accommodation sector is a major component in the travel and tourism industry with various types of services offered, ranging from five-star hotels to low-cost budget hotels. Budget hotels are characterized as a small-scale business with limited facilities and it synonymous with limited-service hotels (Fiorentino 1995). The budget hotel industry is now experiencing accelerated growth. This industry stimulates some of the developments, especially in rural areas in Malaysia. In fact, competitiveness among tourism industry is more rigorous and tourism infrastructures have become more advanced with increased interconnections between suppliers, firms, and customers (Phillips et al. 2016). Thus, tourism organizations need to identify the real sources of business value creation for sustainable tourism development. To some extent, hoteliers need to reconsider some of their long-term strategies by emphasizing social media as the important source of medium in marketing activities.

With the increasing number of internet usage, social media sites have become an important tool for customers seeking and sharing information on products and services (Filiery and McLeay 2013; Podnar and Javernik 2012; Zhou et al. 2014). Moreover, Minazzi (2015) argued that the role of social media appears to be elevated especially in service industry. Hospitality industry relies heavily on social media data to keep themselves survive, sustain, and competitive in the market. In hospitality industry, the advancement of data innovation has enabled online correspondences among customers through different channels, for example, travel site (i.e., Agoda, Booking.com, Traveloka, Expedia, Trivago, and Airbnb) and social networking medium (i.e., Instagram, Facebook, and YouTube).

However, the biggest challenge for hoteliers is to develop effective social media marketing to measure the hotel performance. For this reason, hoteliers need to be progressively aware of the need to actively communicate with customers on social media platform (O'Connor 2010) and develop strategies to address customer reviews (Levy et al. 2013). Numerous studies have been conducted among branded chain hoteliers (Kim et al. 2015; Raguseo and Vitari 2017) but only a few focused on non-branded chain hoteliers (i.e., budget hotel) (Xie et al. 2016; Raguseo and Vitari 2017). Therefore, this study aims to examine the effectiveness of managing social

media in order to get more information and further knowledge on hotel performance by using the determinants of independent variables, namely customer rating, online review, and management response toward comments.

35.2 Literature Review

35.2.1 Hotel Performance

In this Internet age, social media is critically utilized in managing hotel performance through measuring hotel guest satisfaction (Xiang et al. 2015; Gu and Ye 2014; Jeong and Jeon 2008) and it is vital in influencing the customers' decision-making (Xie et al. 2014). For the assessment of hotel performance, the previous study by Phillips et al. (2016) found that hotel attributes including the quality of rooms, Internet provision, and the building itself show the highest impact on hotel performance, and the role of online reviews is crucial to determine the guest decision. In addition, other previous eWOM studies have used revenue per available room (RevPAR) (Blal and Sturman 2014) and occupancy rate (Levy et al. 2013) as hotel performance metrics. The power of social media especially the eWOM must not be underestimated since it is the most major contributor to the revenue and profit of hotel industry. This is proven by Buhalis and Mamalakis (2015) where social media can indeed generate revenue for hoteliers. Therefore, they should not hesitate to invest in social media channel for their online campaign.

35.2.2 Customer Rating

Most of the studies emphasized online rate and review to play a vital role in people's experiences on online purchase decision and shopping. Wang et al. (2018) claimed that these eWOM marketing will help the customers to reduce the risk associated with the uncertainty purchasing experience. High involvement travelers would refer to both information quality and product ranking when they process all information related to the accommodation and other tourism products (Filieri and McLeay 2013). It is clear that customers' ratings have a large impact on the hotel performance (Xie et al. 2014; Kim and Park 2017). Kim and Park (2017) in the study conducted among a large hotel chain in USA indicated that social media rating is the most significant predictor rather than traditional customer satisfaction in explaining the hotel performance. Interestingly, they found that TripAdvisor is the best travel website which is the best predictor for the hotel performance. Furthermore, Xie et al. (2014) revealed that ratings of purchase value, cleanliness of hotel, employee services, and location are the three attribute ratings that can influence the hotel performance. The study has

collected the data from TripAdvisor.com which was conducted among 843 hotels. Based on the above discussion, the first proposition is developed as follows:

Proposition 1 *There is a positive relationship between customer rating and budget hotel performance.*

35.2.3 *Online Review*

One of the prominent types of eWOM that gives a huge impact on travel industry is the online reviews (Filiari and McLeay 2013) which may influence the customer buying decision. Hennig-Thurau et al. (2004) defined online review as “any positive or negative statement made by potential, actual or former consumers about a product or company, which is made available to a multitude of people and institutions via the Internet” (p. 39). Cantalops and Salvi (2014) argued that hotel industry has been impacted by the online reviews. Basically, they have identified that social media marketing tools can influence directly or indirectly the customers and company. From the customers’ perspectives, people will reduce their uncertainty by searching comments and feedbacks on service evaluation (ratings) (Pavlou and Dimoka 2006). Perhaps, most of the travelers found that online reviews can be the information source when planning their trips as the information is more up-to-date, enjoyable, and reliable to refer to Gretzel and Yoo (2008). Online reviews have become a major source of information affecting most of the travelers in considering the decision toward online hotel bookings (Ye et al. 2009; Tsao et al. 2015) and predicting positively hotel financial performance (Raguseo and Vitari 2017; Kim et al. 2015; Phillips et al. 2016). However, from the company’s perspective, it will evaluate its own products and services and its competitors as it recognizes the important information that they received from the customers’ feedback. It will help and ease the lodging business because the hotel has a better understanding and expectation related to the customers’ behaviors, and they can also identify their market opportunities (Duan et al. 2016). Based on the above discussion, the second proposition is developed as follows:

Proposition 2 *There is a positive relationship between online review and budget hotel performance.*

35.2.4 *Management Response*

By referring to the current atmosphere in tourism and hospitality industry, hoteliers need to consider on reacting or respond to customers’ comments and experiences with the hotel services (Gu and Ye 2014). According to Gu and Ye (2014), management response refers to a business effort to interact and respond to any comments on

experience with the business or its products and services. Due to unresponsive management, thus, the hotel will face the risk of future business loss (Chan and Guillet 2011). However, the growing popularity of online social media gives new challenges to service provider. Online complainant easily expresses his dissatisfaction by posting negative comments on online social media without interacting with the management (Gu and Ye 2014). The hotelier needs to change the business strategy by implementing proactive engagement through management response by practicing active listening. Chan and Guillet (2011) in the study conducted in Hong Kong claimed that the company which practices an active management response may experience positive impact. Thus, the scenario will increase the customers' future satisfaction among complaining customers, influence revisit intention among hotel guests (Yavas et al. 2004), and affect the hotel performance (Xie et al. 2014, 2016). Xie et al. (2016) further argued that any of the hotels that would like to grow vigorously should play a big role in proactively responding to customer reviews in an effort to stimulate the ratings and volume of reviews. Based on the previous literature, the third proposition is developed as follows:

Proposition 3 *There is a positive relationship between management response and budget hotel performance.*

35.3 Methodology

35.3.1 Method

Online questionnaires through Facebook and WhatsApp have been selected as a medium to collect the data after researchers get the details of the customer, such as name, contact number, Facebook account, Instagram account, and date of customer check in and check out from customer relationship management (CRM) database provided by Sri Pauh Natural Motel. Using convenience sampling, a total of 120 customers have been selected as a sample size by considering the rule of thumb (Krejcie and Morgan 1970). The data which were collected from the respondents through questionnaires have been tested using the software Statistical Package for the Social Science (SPSS) for data analysis.

35.3.2 Questionnaire Development

All the questionnaires were adopted from the previous studies in which the questions were valid and reliable to be used. The questionnaires comprised 21 items to be measured, such as demographic factor, customer rating, online review, and management response and budget hotel performance. A total of four items were used to evaluate

hotel performance instrument (4 items) developed by Moonman and Rust (1999) and Narver and Slater (1990). Customer rating instrument (4 items) was developed by Lee et al. (2014), online hotel review instruments (4 items) was developed by Park and Lee (2009) and Cheung et al. (2008), and lastly, management response variables (4 items) developed by Smith et al. (1999). Respondents were asked to respond to the items by indicating their level of agreement using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

35.4 Findings

The data which were collected from the respondents through questionnaire have been tested using SPSS software for data analysis. The descriptive analysis results (Table 35.1) show that 56.7% of males represented 68 respondents, while the remaining 52 target respondents (43.3%) were females. The hotel guests were mostly of age between 21 and 30 years (45%), 32 respondents between 31 and 40 years (26.7%), 18

Table 35.1 Demographic profile of the respondents

Variables		Frequency	%
Gender	Male	68	56.7
	Female	52	43.3
Age	Below 20	9	7.5
	21–30	54	45.0
	31–40	32	26.7
	41–50	18	15.0
	51–60	7	5.8
Status	Single	55	45.8
	Married	65	54.2
Social media user	Student	56	46.7
	Full-time employed	31	25.8
	Part-time employed	8	6.7
	Self-employed	10	8.3
	Pensioner	7	5.8
	Unemployed	3	2.5
	Others	5	4.2
Experience using social media	Less than 6 months	27	22.5
	6 months–1 year	26	21.7
	2–3 years	28	23.3
	More than 3 years	41	34.2

Table 35.2 Cronbach’s alpha and correlations for study variables

	Alpha	Mean	Customer rating	Online hotel review	Management response	Hotel performance
Customer rating	0.927	3.11	1			
Online hotel review	0.907	3.15	0.854**	1		
Management response	0.932	3.14	0.912**	0.889**	1	
Hotel performance	0.893	3.14	0.862**	0.914**	0.859**	1

** Significant at the $p \leq 0.01$ level

respondents between 41 and 50 years (15%), 9 respondents below 20 years (7.5%), and the remaining 7 of the users were 51 years and above (5.8%). Most of the respondents were single (54.2%), and the remaining 55 target users were married (45.8%). Among all the hotel guests, 56 were students (46.7%), 31 respondents (25.8%) were full-time employed, 10 (8.3%) of them were self-employed, 8 (6.7%) were part-time employed, 7 (5.8%) from those who were pensioners, others contributed to 5 (4.2%), and the remaining group was from unemployed representing 3 (2.5%). The total of 41 (34.2%) of the respondents have an experience more than 3 years using social media network to search information relating hotel, 28 of them representing (23.3%) have experienced using social media between 2 and 3 years, 27 (22.5%) experienced using social media less than 6 months, and lastly, only 26 (21.7%) have experienced between 6 months and 1 year.

As shown in Table 35.2, the reliability statistics, mean, standard deviations, and correlations were analyzed for each of the variables. In terms of the internal consistency reliability of the study variables, the results show that Cronbach’s alpha coefficients ranged between 0.90 and 0.93, which fulfilled the rule of acceptable value suggested by Nunnaly (1978). It is also shown in Table 35.2 that there is a relationship between dependent variable and independent variables. The result of this study indicates that there is a positive and strong significant correlation between the hotel performance with customer rating ($r = 0.862; p < 0.01$), online hotel review ($r = 0.914; p < 0.01$), and management response toward comments ($r = 0.859; p < 0.01$).

Regression analyses were conducted to determine the relationship between variables. As shown in Table 35.3, there are three predictor variables (customer rating, online hotel review, and management response) which contribute to the hotel performance. All hypotheses were also tested by using the multiple regression. The result reveals that 86% ($r^2 = 0.860$, F-value = 236.57) of the variance in budget hotel performance was explained by customer rating, online hotel review, and management response.

Among the variables, customer rating and online hotel review are significantly related to the hotel performance. There is a significant positive relationship found

Table 35.3 Result of the multiple regression analysis

Hypotheses		Beta	Sig.	Findings
H1	Customer rating	0.296	0.001	Supported
H2	Online hotel review	0.652	0.000	Supported
H3	Management response	0.010	0.920	Not supported
r^2	0.860			
Adjusted r^2	0.856			
F-value	236.568			

between customer rating and the hotel performance ($\beta = 0.296$; $p < 0.001$). In addition, there is a significant positive relationship found between online hotel review and performance. The results indicate that there is a strong association of online reviews and budget hotel performance ($\beta = 0.652$; $p < 0.000$). However, the result points out that there is no significant relationship between management response toward comments from social media user and would not affect the performance at all ($\beta = 0.010$; $p > 0.920$). Hence, it can be concluded that Hypothesis 1 and 2 are supported, while Hypothesis 3 is not supported.

35.5 Discussion and Conclusion

Generally, the findings of this study exhibit the crucial predictor of social media sites marketing in determining budget hotel performance. The multiple regression analysis result shows that customer rating and online review have a positive relationship with budget hotel performance. The findings are also in tandem with the previous study by Kim and Park (2017) who stated that customer rating is the most reliable and predictor for hotel performance metric, and Xie et al. (2014) argued that negative impacts of rating may also reduce sales revenue. This indicates that managing the customer rating will lead to an increase in the hotel performance. From practical perspectives, the results of this study offer several suggestions to practitioners. Hoteliers must put forward their emphasis on budget allocation to their social media marketing campaign and select the best practices of social media campaign (Kiralova and Pavlicecka 2015).

Also, online reviews were seemingly important and found to play a significant role in contributing to hotel performance (Kim et al. 2015; Phillips et al. 2016). Viglia et al. (2016) conducted a study among 346 hotels in Rome and identified three dimensions of online reviews, such as review score, review variance, and review volume which lead to an increase in hotel occupancy and, therefore, leads to hotel performance. Achieving a better online review can lead to positive testimonials, great eWOM communication, and a strong brand reputation for a hotel (Kim et al. 2015). Hoteliers should follow up the negative reviews related to tangible (room cleanliness, facilities, and location) and intangible (service and employee attitudes) elements in order to maintain a good reputation. By focusing on relatively lacking

area in products and services, hotels can receive much better online reviews from customers. Online review can not only lead to discussing the negative points, but also ease the budget of hotels which could save their traditional promotion expenses. Therefore, Propositions 1 and 2 are supported.

However, results reveal that management response does not have a significant relationship with budget hotel performance. There are no clear findings in the previous literature stating how managerial response affected hotel performance (Xie et al. 2016). Xie et al. (2017) argued that the effect of management response does not directly increase hotel performance, but it depends on the average rating and number of online reviews. Surprisingly, the result is contradicted with the study conducted by few studies (Xie et al. 2014, 2016, 2017). Customers from high-class hotels usually expect managerial response (Xie et al. 2014) compared to low-class hotels. It is because by providing the responses, it will show that the hotel is presenting the hotel value and really emphasizing customer care. The case is different if the guests stay in budget hotel. Raguseo and Vitari (2017) highlighted the interaction of organization with the RevPAR growth, and sales profitability is shown not to be applied to non-branded chain hotels. It can be concluded that normally customers do not really care if there is no special treatment provided by the hotel if the customers complain about the products and services (Xie et al. 2014).

The discussion above shows that various social media sites play a vital role and increasingly become primary information source for both customers and businesses when they refer to customers' experiences, user feedback, and product reviews. Thus, hotel marketers and hotel owners need to acknowledge the social media sites as the medium which promotes the budget hotel. Furthermore, they should strengthen and concentrate on their budget allocation to the social media marketing campaign in order to make sure the hotel remains competitive and enhances sustainability in the tourism market.

While this study provides some insights into the importance of social media sites, several limitations of the research are notable. First, the data were collected only on a small sample size and limited to only one budget hotel located in Perlis. Due to the limitation, future researchers could collect the data from wider perspectives by extending the sample to other budget hotels in tourism states such as Melaka, Langkawi Island, and Penang. Second, the present study focused on the relationships between social media sites and budget hotel performance. Another avenue for future research is suggested to be conducted at different tiers of hotels, including luxurious and mid-scale hotel. The comprehensive data might improve the validity and generalization of the findings. Third, the present study focused on only three variables such as customer rating, online review, and management response toward hotel performance. It is suggested that future researcher should explore the other variables of customer ratings such as volume and valence of rating and use personalities of reviewers (e.g., celebrities, Instafamous) as moderating variables between online review and hotel performance (Kim et al. 2015). Lastly, this study was based on cross-sectional data and thus, causality cannot be firmly established. More longitudinal studies are needed.

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Chapter 36

Systematic Literature Review on the Essential Items in a Grab Bag for Flood Risk Community



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Abstract In the wake of 2014 disastrous flood in Kelantan, over 250,000 people were displaced and were in urgent need of shelter, food and water. Failure to assemble logistics overnight left the victims cold, starved and in fear as they were not prepared with essential items when they left their houses during the flood. Hence, the objectives of this research are to review and suggest the essential items needed in a grab bag for flood disaster preparedness. A systematic literature review (SLR) method was applied to achieve the objectives. Findings from SLR indicate that three items are suggested in the preparation of a grab bag, namely essential, optional and special items. Two recommendations were also accentuated; first is to invent a prototype of the grab bag for flood disaster and to commercialise the grab bag so that it can be available in stores for purchase.

Keywords Systematic literature review · Essential items · Grab bag · Flood risk community

36.1 Introduction

Disaster preparedness is everyone's business. Lessons aplenty were to be learnt from 2014 Kuala Krai major floods' recovery: one of them was unprepared flood victims who were displaced for several days without proper shelter, food and water, as well as medical care (Medical Relief Society of Malaysia 2017). When disaster strikes an unprepared community, the damage can be unbelievable. The widespread flood damage had resulted in many displaced victims isolated by floodwater, which added to the logistical difficulties in providing timely aid to them (National Disaster Management Agency 2018). Ironically, many communities including those who live within the flood-prone areas are often unprepared because the big floods do not happen often. With no awareness of immediate need, the survival bag or grab bag

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for disaster preparedness is rarely a priority (Badan Penanggulangan Bencana Nasional 2018).

In Malaysia, flooding happens to be the most frequent and significant natural disaster in terms of affected population, event frequency, duration and socio-economic damage (Department of Irrigation and Drainage Malaysia 2010). For effective response to flood threat, everyone especially individuals who reside in flood-prone areas need to be organised and prepared with the correct essential items or survival kits in an emergency bag or in this context, the grab bag. Being prepared and knowing the essential items needed for survival purpose can reduce the anxiety or fear after being hit by flood (Disaster Reduction Center 2005). This will reduce the possible losses during a flood or an emergency situation. In disaster-prone countries like Japan and Indonesia, grab bag has become a priority.

Grab bag is a disaster supply kit that contains basic items or supplies like food, water and other essential items (Federal Management Agency 2004). The purpose is to survive at least 72 h in the event of an emergency as help or logistics do not come immediately after disaster occurs. Each disaster-prone country has additional or different items in the grab bag. Nevertheless, it is irrelevant to adopt other countries' grab bag as the nature of disaster is different. Thus, this study aims to review the essential items needed in the grab bag through desk study that is the systematic literature review. The findings from the SLR provide suggestions for the suitable items in the grab bag for flood disaster in the Malaysian context.

36.2 Systematic Literature Review Method

A systematic literature review was utilised to obtain the related literature on the essential items needed for flood disaster. The reviewers used the SLR methodology to produce the suggested essential items needed in a grab bag for flood disaster, particularly for flood-prone areas' community. There are four phases in SLR method (see Fig. 36.1).



Fig. 36.1 Four phases in SLR method

Table 36.1 SLR search strings

Database	Keywords
Scopus	TITLE-ABS-KEY (("essentia* item*" OR "essentia* kit* AND surviva* "OR" essentia* AND disaste* "OR" earthquak AND essentia* OR "disaster* surviva*" OR "emergenc*" OR "disaste*" OR "kit* OR" gra* AND ba* "OR" read* AND ba* OR "survival* AND bag*")
WoS	TS = (("essentia* item*" OR "essentia* kit* AND surviva* "OR" essentia* AND disaste* "OR" earthquak AND essentia* OR "disaster* surviva*" OR "emergenc*" OR "disaste*" OR "kit* OR" gra* AND ba* "OR" read* AND ba* OR" survival* AND bag*")

36.2.1 Phase 1: The Identification of Literature

First, a rigorous search of related topics or terms related to essential items for disaster preparedness were identified. The identification was conducted by queries searching that allows systematic search via established publication databases. Justified by the large abstracts and citations databases of peer-reviewed publications, the reviewers used Scopus and Web of Science (WoS) for identification of literature review or queries searching.

These two databases covered over 256 disciplines with more than 20,000 journals available. At this phase, related published papers were sought from the two databases search engines. Keywords like "essential items needed in emergency bag", "essential items needed in post-disaster kit", "essential items needed in grab bag", "essential items needed for 3-days survival kits" and "survival kits for disaster" were used during the search.

The review resulted in the identification of 47 items of literature of similar keywords as mentioned earlier in this section. The search string is summarised in Table 36.1.

36.2.2 Phase 2: The Screening of the Identified Literature

The identified literature was later screened to suit the context of essential items, type of disaster and grab bag. Of the 47 types of literature, 13 suited the topic of this paper, which is the essential items needed in grab bag for the flood disaster. The screening also excluded any literature duplication such as similar authors, similar research title and non-English publications as well as any post-disaster reviews as this paper only focuses on the pre-disaster preparation or disaster preparedness.

36.2.3 Phase 3: The Eligibility and Exclusion

Next was the eligibility and exclusion phase. The remaining 13 forms of literature were reviewed thoroughly. After an extensive review, four literature types were removed. These did not have the information on essential items needed for pre-disaster preparedness as they were generally on policy and pre-disaster planning. At this stage, 11 literature remained relevant. Data or the items were analysed and abstracted.

A systematic review was tabulated with items checklist, author(s), title of publication, year of publication, country or region of study and type of disaster. The checklist of items was categorised into five items, namely Essentials, Sanitation, Comfort, Cooking and Tools.

In essential checklist, review includes water supply, first aid kit, water purification kit, non-perishable food, blanket, torchlight, medications, cash, special items for infants, elderly or disabled people, whistle, copies of important documents, baby food and pet food. Out of these 15 items, only water supply, first aid kit, non-perishable food, whistle, copies of important documents, special items for elderly, babies and disabled were discussed in at least 8 literature out of 11 literature on essential items in a grab bag (Badan Penanggulangan Bencana Nasional 2018; Department of Disaster Management, Virgin Islands 2011; Department of Irrigation and Drainage Malaysia 2010; Disaster Management of Japan 2018; Federal Management Agency 2004; International Code Standard 2006; Medical Relief Society of Malaysia 2017; Mohamed Shaffril et al. 2018).

Second checklist is the sanitation. In this checklist, review takes into account wet wipes, bar soap, shampoo, toothpaste and toothbrush, toilet paper and deodorants. From the review, the accurate term for this checklist is personal hygiene, which includes bathing soap, laundry soap, menstrual hygiene product (feminine), moist towelettes or wet wipes, toothbrush and toothpaste as recommended by The Sphere Project and United Nations Commissions on Human Rights (The United Nations Refugees 2006; The Sphere Project 2011).

Third checklist is safety and comfort. The items in this checklists are sturdy shoes, heavy gloves for clearing debris, candles and matches, light sticks, change of clothes, multi-tools, tent, communication kit, extra pair of glasses, cell phones, paper and pen, books, games or puzzles for kids, insecticide spray or coil, portable radio and large plastic trash bag. Some items like change of clothes, matches and multi-tools are suggested as essential items or must-have items in a grab bag as discussed by the UNCHR (The United Nations Refugees 2006). Other items are considered as optional items.

The fourth checklist from the review is cooking that includes plastic knife, paper plates, cutlery, paper towels and matches. Only three literature discussed this checklist (Department of Emergency Management 2004; Federal Management Agency 2004; International Code Standard 2006).

The last checklist consists of tools like wrench, pliers and hammer. Some of the literature recommended tools as one of the checklists because of the disaster type

(Department of Emergency Management 2004; Disaster Management of Japan 2018; Federal Management Agency 2004; International Code Standard 2006). Items like pliers and hammer will ease the survivors that have to deal with building debris from earthquake (Disaster Management of Japan 2018). Thus, countries that are free from or experience the least earthquake disaster may disregard this checklist (The United Nations Refugees 2006).

36.2.4 Items in Abstraction

The last phase is abstraction. In abstraction, the items in the five checklists were reduced to three checklists based on frequency and disaster type. The reduction from five to three checklists was based on the two reduction factors: first, it is the suitability of the items to flood disaster, and second, it is the frequency of the recommended items from the review. This abstraction later formed the suggested items in grab bag for flood disaster, and it was categorised into three checklist items. These three checklist items were deemed as crucial items for survival purpose after disaster, and categorised into Essential Items, Optional Items and Special Items. The abstraction data are given in Table 36.2 and further discussed in the following section.

36.3 The Essential Items in a Grab Bag for Flood Risk Community

Table 36.2 shows the suggested checklist items, the frequency of similar items, description of items and recommended unit of quantity for the preparation of grab bag within the flood context. Sections 36.3.1, 36.3.2 and 36.3.3 explained the suggested items and recommended quantity or units needed for 3-day survival.

36.3.1 Essential Items

Essential items are the compulsory items in the preparation of a grab bag for survival purpose. There are ten essential items as reviewed in the selected 11 literature (Badan Penanggulangan Bencana Nasional 2018; Department of Disaster Management, Virgin Islands 2011; Department of Emergency Management 2004; Department of Irrigation and Drainage Malaysia 2010; Disaster Management of Japan 2018; Federal Management Agency 2004; International Code Standard 2006; Kelantan Flood Disaster Committee 2015; Mohamed Shaffril et al. 2018; Singapore Civil Defence Force 2018; The United Nations Refugees 2006; The Sphere Project 2011). The first essential item is water supply. Water supply is crucial as nearly 60% of human body

Table 36.2 Suggested checklists, description and recommended quantity

Suggested checklist	Suggested supplies	F	Description of supplies	Guidelines and recommendations
Essentials items	Water supply	11	Nearly 60% of human body is water. For hydration, setting aside enough bottled water for an emergency is essential. Identify the storage date and replace twice a year	<ul style="list-style-type: none"> • 2 L of water/person/day • 1 L water for sanitation/day
	Packaged or canned food	11	Small packaged food like energy bars, dried fruits, cookies or crackers. Canned food lasts longer but heavier. Meals ready-to-eat (MRE) is recommended as it has complete nutrients. Identify the expiration date and replace when required	<ul style="list-style-type: none"> • 2100 kcals/person/day • 53 g protein/person/day • 40 g fat/person/day • Multi-vitamins
	Complete change of clothing	11	For comfort and hygiene purpose, at least has two sets of change; t-shirt, long pants, undergarment and footwear	<ul style="list-style-type: none"> • 2 sets of clothing to enable laundry • Footwear • Materials dry fast and not too hot
	Blanket or sleeping bag or foldable mat	10	For comfort and thermal insulation. It can be blanket, space blanket, sleeping bag or foldable mat	<ul style="list-style-type: none"> • Able to reduce heat loss • Durable materials
	Torchlight with spare batteries	10	In case of power outage or when evacuating in dark situations. Spare some batteries, but do not fit the batteries into the device until needed as installed batteries may result in leakage	<ul style="list-style-type: none"> • Nil

(continued)

Table 36.2 (continued)

Suggested checklist	Suggested supplies	F	Description of supplies	Guidelines and recommendations
	Personal hygiene	8	Without running water, bare minimum toiletries are essential for proper hygiene	<ul style="list-style-type: none"> • 200 g bathing soap (1 person 1 month) • 200 g detergent (1 person 1 month) • Menstrual hygiene product (feminine) • Moist towelettes or wet wipes • Toothbrush • toothpaste
	First aid kit	8	To treat any small or severe wounds that are not immediately life threatening	<ul style="list-style-type: none"> • Band-aid (adhesive bandage) • Bandages • Gauze • Antihistamine (counter allergic) • Antiseptic wipes • Antibiotic ointment • Moleskin (blister)
	Copies of important documents	8	Copies of important documents should be kept in case the original documents be destroyed or lost during disaster. Store them in waterproof container	<ul style="list-style-type: none"> • NRIC • Passport • Insurance policies • Titles of property ownership
	Matches in a waterproof container	8	To heat/cook meals over a fire in a true emergency. Store it in waterproof container	<ul style="list-style-type: none"> • Matchbox or • Lighter
	Whistle	7	Use to alert or call others. Shouting can be tiring and ineffective	<ul style="list-style-type: none"> • Nil

(continued)

Table 36.2 (continued)

Suggested checklist	Suggested supplies	F	Description of supplies	Guidelines and recommendations
Optional items	Water purification kit	6	Any water source needs to be treated. If left untreated over time, it will become contaminated with bacteria and algae	<ul style="list-style-type: none"> • Mini water filter • 1 pack of water bags to store the collected water • 1 bottle for keeping the treated water • Ointment or spray type of repellent
	Insect repellent	6	Pools of stagnant water will be a breeding ground for mosquitoes; keeping them away with repellent will reduce the risk of diseases like malaria or dengue	
	Multi-tool equipment	5	Use to avoid items' redundancies. A tool installed with a small knife, a small scissor might come in handy for multi-purpose tasks like cutting or cooking	<ul style="list-style-type: none"> • Nil
Special items	Baby care	6	Baby care has different requirements than normal adult	<ul style="list-style-type: none"> • Formula • Diaper • Baby food • Baby wipes • Blankets • Clothing
	Elderly care	6	The elderly care has different requirements than normal adult	<ul style="list-style-type: none"> • Digestive biscuits • Adult diaper • Extra glasses • Other personal care
	Personal medication	6	For any medical condition, e.g. asthma, heart problems, diabetic, keep a supply of prescription drugs that one consumes regularly	<ul style="list-style-type: none"> • Regular prescription • Pain relievers • Antacids

is water as agreed by all the selected 11 literature ($F = 11$). To prevent dehydration, setting aside enough bottled water for an emergency is crucial. It is recommended that individuals who have the prospect of becoming flood victims prepare at least 3 L of water as per told in the review (The Sphere Project 2011). Next item is food ($F = 11$). Food is also crucial as an energy source. Meals ready-to-eat (MRE) is a must-have item as it has complete nutrients. As an alternative, packaged or canned food is also allowed as it lasts longer.

A set of clothing ($F = 11$) is also essential for comfort and hygiene purposes. A complete set of clothing normally includes a shirt, a pair of pants or shorts, footwear and undergarments. At night, a blanket or sleeping bag ($F = 10$) is recommended as an essential item to reduce heat loss or provide thermal insulation (heat) and comfort. Torchlight with spare batteries ($F = 10$) is also essential in case of power outage or when evacuating at night. It is recommended that batteries are spared for longer usage of the torchlight. Without running water, a bare minimum of toiletries is essential for proper hygiene ($F = 8$). The recommended basic hygiene products are bathing soap, detergent, menstrual (female), wet wipes, toothbrush and toothpaste (The Sphere Project 2011).

Considered as equally important is first aid kit ($F = 8$). The recommended kit must at least include band-aid, bandages, gauze, antihistamine, antiseptic wipes and mole-skin (blister). The kit is to treat any small or severe wounds that are not immediately life-threatening.

Next, essential items are copies of important documents ($F = 8$). For post-disaster management purpose, copies of documents should be kept and should the original be destroyed or lost during disaster. This will ease the registration and logistics purposes after the disaster. It is recommended to copy identity card, passport, insurance policy and ownership titles. Matches or lighters ($F = 7$) are also considered as essentials to heat or cook meals over a fire in a true emergency situation or controlled fire to warm the bodies at night or in cold situation. The last essential item is a whistle. It is recommended as it can be used to alert or call others as shouting can be tiring. Blowing a whistle is effective especially for victims who are trapped under building structures due to an earthquake or isolated due to floodwaters.

36.3.2 Optional Items

From Table 36.2, there are three items which are considered optional. Optional items are items that can be included in the preparation of grab bag as it has specific purpose. The first optional item as reviewed is water purification kit ($F = 6$). After evacuation or being displaced due to disaster, human body will dehydrate. If evacuated without grab bag, water supply must be rummaged.

Any water source needs to be treated before consumption, especially countries with nuclear plant or chemical leakage. If the source of water is left untreated, it could be tainted with bacteria and algae as well (The Sphere Project 2011). It is

recommended to purify water with purification kit to ensure that the water is safe to drink or use.

Insect repellent ($F = 6$) is also optional to prepare as stagnant water will be a breeding ground for mosquitos. Keeping the insect repellent will reduce the risk of diseases like malaria or dengue. Finally, another item that must not be overlooked is multi-tool equipment ($F = 5$). A tool installed with small knife and scissors will come in handy for cutting, cooking or other purposes.

36.3.3 Special Items

Special items are for special groups of people, namely infants, individuals diagnosed with illness and the elderly. As the items are special to these particular groups of victims, it is recommended to prepare them as required. For an infant or baby care ($F = 6$), it is recommended to prepare milk formula, diaper, baby food, baby wipes, blankets and clothing. For the elderly care ($F = 6$), digestive biscuits, adult diapers, extra glasses and other personal care should be prepared in a grab bag. In addition, those with specific illness ($F = 6$) need to keep a supply of prescription drugs that consumes regularly like asthma, heart problems or diabetes.

36.4 Conclusion

This systematic review highlights the essential items needed in grab bag (bag for survival or emergency) that should be considered in the preparation before flood (pre-disaster preparedness). The preparation of grab bag must take into consideration the items needed as recommended, namely essential, optional and special items. Preparation of a grab bag will help the community especially those who reside in flood risk areas during emergency as they only need to grab the bag and evacuate to safe areas.

Two recommendations for further research could be suggested from the abstracted systematic review data. First, the checklist items (essential, optional and special) could be used in the invention of an actual grab bag. Yet, the items need to be tested quantitatively. Second, the invented grab bag could be designed for commercial purpose.

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Chapter 37

The Essential Items Needed in a Grab Bag by Flood Victims in Kuala Krai, Kelantan



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Abstract Floods cause damage to homes and possessions. In this situation, the flood victims require emergency relief aid in the form of necessities. According to newspaper reports, the emergency relief aid only arrived at the flood relief centre after 48 h. Thus, this research aims to determine the essential items needed by victims of floods during the preparation of flood survival kits. An empirical study was conducted in the worst flood area of Kelantan, Malaysia. Questionnaires were distributed to 500 flood victims. Data were analysed quantitatively using Statistical Package for Social Science (SPSS) software analysis. Findings indicate that the main essential items needed in flood survival kits are food and water, medical and sanitatry supplies, dental hygiene essentials, pads and blankets. Research findings will give input for the preparation of emergency bag in regard to flood context.

Keywords Essential items · Grab bag · Flood victims

37.1 Introduction

Disaster preparedness is everyone's business. One of the lessons learnt from 2014 Kuala Krai major floods' recovery was that unprepared flood victims were displaced for several days without proper shelter, food and water, and medical care (Medical Relief Society of Malaysia 2017). When disaster strikes an unprepared community, the damage can be unbelievable. The widespread flood damage had resulted in many displaced victims isolated by floodwaters, which added to the logistical difficulties in providing timely aid to them (National Disaster Management Agency (n.d)). Ironically, many communities including the flood-prone areas are often unprepared because the big floods do not happen often. With no awareness of immediate need,

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the survival bag or grab bag for disaster preparedness is rarely a priority (Badan Penanggulangan Bencana Nasional 2018).

In Malaysia, flooding happens to be the most frequent and significant natural disaster in terms of affected population, event frequency, duration and socio-economic damage (Department of Irrigation and Drainage Malaysia 2010). For effective response to flood threat, everyone especially those who reside in flood-prone areas needs to be organised and prepared with the correct essential items or survival kits in an emergency bag, or in this context, the grab bag. Being prepared and knowing the essential items needed for survival purpose can reduce the anxiety or fear after being hit by flood (Department of Irrigation and Drainage Malaysia 2010). This will reduce the possible losses during the flood or an emergency. In disaster-prone countries like Japan and Indonesia, grab bag is a priority.

Grab bag is a disaster supply kit that contains basic items or supplies like food, water and other essential items (Federal Management Agency 2004). The purpose is to survive at least 72 h in the event of an emergency as help or logistics do not come immediately after disaster occurs. As each disaster-prone country has additional or different items in the grab bag, it seems irrelevant to adopt other countries' grab bag as the nature of disaster is different. Thus, this study aims to review the essential items needed in the grab bag through desk study, that is, the systematic literature review. The findings from the SLR provide suggestions for the suitable items in the grab bag for flood disaster context in Malaysia.

37.2 The Essential Items in a Grab Bag for Flood Disaster

Grab bag is a disaster supply kit that contains basic items or supplies like food, water and other essential items (Federal Management Agency 2004). The purpose is to survive at least 72 h in the event of an emergency as help or logistics do not come immediately after disaster occurs. As each disaster-prone country has additional or different items in the grab bag, it seems irrelevant to adopt other countries' grab bag as the nature of disaster is different. Thus, in this section, the researchers reviewed the essential items' checklists from different disaster-prone countries and categorised it based on the frequency and disaster type to suit the flood disaster nature in Malaysia.

37.2.1 The Essential Items Checklists in a Grab Bag

According to the literature review, there are five checklists to produce a grab bag. They are Essential Items, Sanitation, Safety and Comfort, Cooking and Tools. In essential checklist, review includes water supply, first aid kit, water purification kit, non-perishable food, blanket, torchlight, medications, cash, special items for infants, elderly or disabled people, whistle, copies of important documents, baby food and pet food. Out of these 15 items, only water supply, first aid kit, non-perishable

food, whistle, copies of important documents, special items for elderly, babies and disabled were discussed in at least 8 literature out of 11 literature on essential items in a grab bag (Badan Penanggulangan Bencana Nasional 2018; Department of Disaster Management, Virgin Islands 2011; Malaysia. Asian. 2010; Disaster Management of Japan 2018; Federal Management Agency 2004; International Code Standard 2006; Medical Relief Society of Malaysia 2017; Mohamed Shaffril et al. 2018).

Second checklist is sanitation. In this checklist, review takes into account wet wipes, bar soap, shampoo, toothpaste and toothbrush, toilet paper and deodorants. From the review, the accurate term for this checklist is personal hygiene which includes bathing soap, laundry soap, menstrual hygiene product (feminine), moist towelettes or wet wipes, toothbrush and toothpaste as recommended by The Sphere Project and United Nations Commissions on Human Rights (The United Nations Refugees 2006 and The Sphere Project 2011).

Third checklist is safety and comfort. The items in this checklists are sturdy shoes, heavy gloves for clearing debris, candles and matches, light sticks, change of clothes, multi-tools, tent, communication kit, extra pair of glasses, cell phones, paper and pen, books, games or puzzles for kids, insecticide spray or coil, portable radio and large plastic trash bag. Some items like change of clothes, matches and multi-tools are suggested as essential items or must-have items in a grab bag as discussed by the UNCHR (The United Nations Refugees 2006). Other items are considered as optional items.

The fourth checklist from the review is cooking that includes plastic knife, paper plates, cutlery, paper towels and matches. Only three literature discussed on this checklist (Department of Emergency Management 2004; Federal Management Agency 2004; International Code Standard 2006).

The last checklist is tools like wrench, pliers and hammer. Some of the literature recommended tools as one of the checklists because of the disaster type (Department of Emergency Management 2004; Disaster Management of Japan 2018; Federal Management Agency 2004; International Code Standard 2006). Items like pliers and hammer will ease the survivors to deal with building debris from earthquake (Disaster Management of Japan 2018). Thus, countries that are free from or experience the least earthquake disaster may disregard this checklist (The United Nations Refugees 2006).

37.2.2 The Suggested Items in a Grab Bag for Flood Disaster

Using descriptive analysis, from five-item checklist, it was noted that all of the items can be categorised into three checklist items. These three checklist items were deemed as crucial items for survival purpose after disaster, categorised into Essential Items, Optional Items and Special Items.

Essential Items: Essential items are compulsory items that must be prepared and included in the preparation of grab bag for survival purpose. There are ten items as reviewed in the selected 11 literature. The first essential item is water supply. Water

supply is crucial as nearly 60% of human body is water as agreed by all selected 11 literature (F = 11). To prevent dehydration, setting aside enough bottled water for an emergency is essential. It is recommended that individuals who might be flood victims prepare at least 3 L of water as per told in the review.

Next is food (F = 11). Food is also crucial as energy source. Meals ready-to-eat (MRE) is recommended as it has complete nutrients. However, packaged or canned foods are also allowed as it lasts longer. A set of clothing (F = 11) is also essential for comfort and hygiene purpose. A complete set of clothing normally includes a shirt, pants or shorts, footwear and undergarments.

At night, a blanket or sleeping bag (F = 10) is recommended as essential item to reduce heat loss or provide thermal insulation (heat) and comfort. Torchlight with spare batteries (F = 10) is also essential in case of power outage or when evacuating at night. It is recommended that batteries are spared for longer usage of the torchlight. Without running water, a bare minimum of toiletries is essential for proper hygiene (F = 8). The recommended basic hygiene products are bathing soap, detergent, menstrual hygiene product (female), wet wipes, toothbrush and toothpaste.

Considered as equally important is first aid kit (F = 8). The recommended kit must at least include band-aid, bandages, gauze, antihistamine, antiseptic wipes and moleskin (blister). The kit is to treat any small or severe wounds that are not immediately life-threatening. Next essential item is copies of important documents (F = 8). For post-disaster management purpose, copies of documents should be kept in the case the originals are destroyed or lost during disaster. This will ease the registration and logistics purposes after the disaster is over. It is recommended to copy identity card, passport, insurance policy and ownership titles.

Matches or lighters (F = 7) are also considered as essential to heat or cook meals over a fire in a true emergency situation or controlled fire to warm the bodies at night or cold situation. The last essential item is a whistle. It is recommended as it can be used to alert or call others as shouting can be tiring and it is effective especially for those who are trapped under building structures due to earthquake or isolated due to floodwaters.

Optional Items There are three items reflected as optional. Optional items are items that can be included in the preparation of grab bag as they have specific purpose. The first optional item as reviewed is water purification kit (F = 6). After evacuation or displaced due to disaster, human body will dehydrate. If evacuated without grab bag, water supply must be searched. Any water source needs to be treated before consumption, especially countries with nuclear plant or chemical leakage. If the source of water is left untreated, it can be contaminated with bacteria and algae as well.

It is recommended to purify water with purification kit to ensure the water is safe to drink or use. Insect repellent (F = 6) is also optional to prepare as stagnant water will be a breeding ground for mosquitos. Keeping the repellent will reduce the risk of diseases like malaria or dengue. Lastly, the item needed is a multi-tool equipment (F = 5). A tool installed with small knife and a pair of scissors will come in handy for cutting, cooking or for other purposes.

Special Items Special items are for special group of people, namely infants, individuals diagnosed with illness and the elderly. As the items are special to these groups, it is recommended to prepare them as required.

For infant or baby care ($F = 6$), it is recommended to prepare milk formula, diaper, baby food, baby wipes, blankets and clothing. For the elderly care ($F = 6$), digestive biscuits, adult diapers, extra glasses and other personal care should be prepared in grab bag. In addition, those with specific illness ($F = 6$) need to keep a supply of prescription drugs that they consume regularly like asthma, heart problems or diabetes.

37.3 Methodology

This research applies analytic survey using cross-sectional research design. The data were collected through a series of structured questionnaires distributed in Kuala Krai, Kelantan to the victims. Questionnaire forms were distributed by hand to villagers at selected relocation areas in Kuala Krai. The area includes Kampung Telekong, Kampung Bekok and Kampung Nal.

A total of 233 questionnaires were received which represented an approximately 100% of response rate. The questionnaires used in this study consist of two main sections, Sect. 37.1: Demographic Profile that includes survey location, age and gender of the respondents, while Sect. 37.2 of the survey was divided into three sub-sections of Essential Items, Optional Items and lastly Special Items. The items in Sect. 37.2 were measured using four agreement scales of 1—Strongly Disagree, 2—Disagree, 3—Agree and 4—Strongly Agree.

Data collected through the survey were analysed quantitatively using Statistical Package for Social Sciences (SPSS) version 23. The analysis comprises the descriptive statistics encompassing frequency distribution and percentages distribution form for univariate analysis and t-test comparative analysis that measure the differences in terms of male and female flood survival items.

37.4 Findings

There were 136 male respondents and 97 female respondents. The majority were from Kg. Telekong with the percentage of 44.6%. The majority (33.5%) of the respondents were from the age of 46–60 years old.

Table 37.1 portrays that most of the respondents need water supply with mean index score of 3.97 as essential items in the grab bag followed by copy of important documents (3.91), canned and packaged food (3.73), clothes (3.52) and medical supply (3.49). Majority of the respondents agreed that they experienced a scarcity

Table 37.1 Items by clusters

Clusters	Items	Mean	Mean (Cluster)	Rank
Essential	Water supply	3.97	3.32	1
	Canned food	3.73		3
	Clothes	3.52		4
	Blanket	3.2		8
	Torchlight and battery	3.44		6
	Toiletries	3.1		12
	First aid kit	3.18		9
	Copy of documents	3.91		2
	Matches/lighter	2.93		14
	Whistle	2.23		16
Optional	Water purification kit	3.22	2.99	7
	Insect repellent	2.8		15
	Multi-purpose tool	2.94		13
Special	Baby care product	3.12	3.24	10
	Elderly care products	3.12		11
	Medical supply	3.49		5

of safe drinking water, contaminated water resource, flood-related disease outbreak and disruption of water treatment facilities.

Koh Liew et al. (2017) articulated that the water supply problem would worsen when large and prolonged floods happen because it leads to an increase in the number of victims. This in turn results in high demand for clean water in flood evacuation centres. This situation causes these victims to experience lack of clean water to accommodate a large number of flood victims. Hence, the result shows that water supply is the most important item among all 16 items listed.

The least mean index score for needed items is whistle (2.23) followed by insect repellent (2.80), matches/lighter (2.93) and multi-purpose tool (2.94). According to the cluster, the least important item in Essential Cluster is whistle; Optional Cluster is insect repellent and Special Cluster is elderly care product.

37.5 Conclusion and Recommendations

This research provides an account of the essential items needed by flood victims in Kuala Krai, Malaysia. Findings indicate that 58.4% of males and 41.6% of females stated their need during the flood is clean water. It is undeniable that water needs are significant in life, mainly when floods occur. In addition, important documents are the second essential item for their needs or conformation as a flood victim and for being eligible for assistance during and after the flood.

The research findings will give input on framework for essential items needed by victims for the government, NGO, MERCY or other appropriate bodies involved in disaster management. The input will help government to successfully provide quality of life for victims through preparation of the survival kit or grab bag as preliminary actions for helping the victims to survive for at least a few days before big actions are taken to save the household life. Flood survival kits is crucial to be prepared and ready during the pre-disaster period. Having a flood survival kit is an important step to prepare and protect the household for unforeseen and unpredictable consequences. This action will enhance the victims' quality of life.

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Chapter 38

The Influence of Personality Differences on Job Burnout among Medical Doctors in Public Hospitals: A Review of the Literature and Model Development



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Abstract Large bodies of research in the last few decades have provided evidence that life events contribute to the onset of psychiatric illness. These life events cause stress, and they are called stressors (Asreene and Razali in *Malays J Psychiatry* 16:16–22, 2007). Among all health issues, burnout among employees deserves particular attention as they are easily neglected. There is a large body of evidence that proves medical doctors are at greater risks of experiencing stress, depression, anxiety, substance misuse, addiction, and high level of distress than the general population (Brooks et al. in *J Mental Health* 26:161–166, 2017). However, there is evidence from the Department of Statistics and National Health and Morbidity Survey from 1986 to 2015, showing that prevalence of hypertension and other cardiovascular diseases are not reported (MOH in *Malaysia Health Systems Research Volume 1: contextual analysis of the Malaysian Health System*, 2016). Within the Malaysian healthcare environment, studies relating to the health status of medical doctors in public hospitals have been relatively scanty (Lizano in *Hum Serv Organ Manag Leadersh Gov* 39:167–181, 2015; Lua and Imilia in *Malays J Psychiatry* 20, 2011; Sidi and Maniam in *Malays J Psychiatry* 5:16–26, 1997).

Keywords Neuroticism · Extraversion · Job burnout · Health care professionals

38.1 Introduction

There are large bodies of evidence that proved medical doctors are at greater risks of experiencing stress, depression, anxiety, substance misuse, addiction, and high level of distress than the general population (Brooks et al. 2017). Doctors who suffer from these risks not only jeopardize their quality of life but also the quality of care that they provide for their patients. This prolonged stress is known as job burnout.

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Doctors who experience burnout have a higher rate of depressive symptoms and suicide attempts and are often unable to meet the demands of patients (Wieclaw et al. 2008). Doctors are significantly important to the public, and thus their illnesses and sufferings may result in a delay in care delivery, which will have a spillover effect on their patients (Kay et al. 2004; Uncu et al. 2006). However, Othman et al. (2015) cited that previous empirical studies have shown that personality traits predict individuals' performances in various non-medical and medical occupation settings (Lockenhoff et al. 2011). This is to conclude that individuals with high neuroticism would be affected greater than those who are low in neuroticism, especially when dealing with organizational stressors (Nasurdin et al. 2005). Besides, a study among medical students reported that extraversion trait buffers the effect of mental health symptoms such as stress reaction, anxiety, and depression due to the existence of job stress (Gramstad et al. 2013; Kokkinos 2007). Medical students are exposed to chronic mental health compared to other students, especially during their final undergraduate years. These findings led to the understanding of why junior doctors struggle to survive in their first year and the worse it becomes a prolonged mental disease for a longer period.

38.1.1 Job Burnout

Job burnout is a psychological state resulting from prolonged emotional or prolonged job stress (Maslach and Jackson 1981; Maslach et al. 2001). It has three dimensions comprising emotional exhaustion, depersonalization, and reduced personal accomplishment. Emotional exhaustion refers to feelings of being emotionally exhausted because of the work. It is characterized by a lack of energy, negative affect, and a perception that one's emotional resources have been depleted (Maslach and Jackson 1984; Maslach and Leiter 1997). In other words, these individuals perceived that they are incapable of performing their work, and therefore they feel upset and resentment. Meanwhile, depersonalization is an attempt to put distance between oneself and service recipients by actively ignoring the qualities that make them unique (Maslach et al. 2001; Maslach and Jackson 1984). For instance, the individuals isolate themselves from interacting with customers, patients, or clients due to the negative feelings that they experience. Lastly, reduced personal accomplishment refers to a feeling of reduced competence and a lack of success or achievement in one's work with people (Maslach and Jackson 1981; Maslach et al. 2001). These individuals lack confidence, and they feel incompetent that they cannot perform their jobs sufficiently.

The occurrence of job burnout results from job-related factors and lack of conducive workplace in various professions, such as medical doctors, nurses, policemen, teachers, social workers, mental health workers, and psychologists (Maslach and Jackson 1981, 1984; Constable and Russell 1986). Till today, job burnout among healthcare professionals has been recognized as a serious phenomenon particularly relevant to caregiving and human service occupations which are interpersonally stressful and emotionally demanding such as for nurses and physicians within a

series number of cultures and countries such as USA, Canada, UK, Netherlands, Japan, Brazil, Germany, France, Italy, Spain, Portugal, Serbia, Romania, and Greece (Alexandra-Karamanova et al. 2016; Bakker and Heuven 2006; Lloyd et al. 2002; Ogundipe et al. 2014). Job burnout may, in turn, become an extreme case of chronic disease due to prolong occupational stress which, in turn, may affect the individual's mental health and physical health (Maslach et al. 2001; Arigoni et al. 2010; Ju et al. 2015). Job burnout syndrome may result in mental disorders such as alcohol abuse, anxiety, depression, posttraumatic stress disorder, and even suicidal attempts.

In summary, many publications pointed out the possible association of evidences which had consistently supported the favorable relationships between personality and various areas of individual performance, which include job performance, mental health, academic success, career success, positive personal qualities, and well-being either in medical or pharmacy context or others (Kokkinos 2007; Yusoff et al. 2012).

38.1.1.1 Predictors of Job Burnout

Neuroticism. Soto and John (2009) defined neuroticism as an individual's tendency to experience psychological distress due to the experience of negative emotions such as anxiety, general apprehensive, and easy to feel worried, for instance, sad, lonely, and dejected (Costa and McCrae 1992a). According to Judge et al. (1999), neuroticism is related to anxiety, instability, anger, insecurity, and depression. In addition, neurotic individuals are more likely to experience negative moods and physical symptoms affected by negative life events. Neuroticism as the variable is relatively more stable and statistically controlled, especially in assessing the influence of stressors (Sun and Stewart 2000). Neurotic individuals easily triggered negative responses and negative emotional reaction such as strain and job burnout (Hoogh and Hartog 2009). Based on previous studies, Kotov et al. (2010) concluded that neuroticism is a trait of personality that significantly predict the mental health of an individual.

Empirical evidence has shown that personality differences are strong predictors of employee's well-being particularly in regard to mental health and physical health (Beehr et al. 2010). According to Costa and McCrae (1980), neuroticism becomes a strong predictor of individual well-being in which neuroticism increased negative emotions. According to Francis and Jackson (2003), individuals with the neurotic traits are categorized as anxious, depressed, tense, irrational, shy, moody, emotional, suffering from guilt feelings, and having low self-esteem. They are also overly attached to emotions and react to those particular emotions strongly until they feel exhausted and fatigue and consequently affecting their health behaviors such as smoking and alcohol addiction, bad sleeping patterns, unhealthy eating habits, and others. People who score high on neuroticism are characterized by negative emotions and feel easily overwhelmed by stressful experiences and may facilitate adjustment to current situations, and thus promote cognitive, emotional, and physical well-being (Lockenhoff et al. 2011).

Extraversion. One of the strongest dimensions of the five-factor model is extraversion. As defined by Costa and McCrae (1992b), extraversion refers to the extent to which one is cheerful, gregarious, fun loving, enthusiastic, and tendency to experience positive emotions such as joy and pleasure. Individuals high in extraversion may perceive the work environment more positively than do individuals who are low in extraversion (Alarcon et al. 2009). Extroverts, for example, may generally experience positive social environments at work, because they often induce positive responses from their co-workers (Bowling et al. 2006). Empirical evidence has shown that personality differences are strong predictors to employee's well-being in the concept of mental health and physical health (Beehr et al. 2010). According to Costa and McCrae (1980), extraversion becomes a strong predictor of well-being in which extraversion increased positive emotions of the individual. According to Evans et al. (2016), individuals with a high score on extraversion would be less inclined to become stressful and they would experience better health outcomes. This is because extraverts will be less likely to regulate negative emotions, prefer being with others rather than being lonely, and they enjoy socializing with the community. Hence, they are less likely to experience poor mental health and physical health.

38.1.2 Propositions

There are two propositions that have been developed in this study prior to previous studies. Those are as follows:

Neuroticism and Job Burnout The effects of personality characteristics such as neuroticism on burnout among employees in various populations such as nursing workers, doctors, school psychologists, professional caregivers, physicians, health-care providers, and teachers are well documented in the literature (Maslach et al. 2001; Armon et al. 2012; Shimizutani et al. 2008). In a study conducted in Japan in a hospital among the healthcare staff, it seems to suggest that neuroticism was positively associated with job burnout (Shimizutani et al. 2008). Individuals with neuroticism with traits such as anxiety, hostility, depression, self-consciousness, and vulnerability are emotionally unstable and are more prone to job burnout (Maslach et al. 2001). In addition, researchers reported that healthcare employees with high neuroticism were found to experience greater dimensions of job burnout (Azeem 2013; Zellars et al. 2004). Individuals with high neuroticism tend to view certain situations in a negative manner; they become easily worried about unpleasant conditions, react negatively to that particular condition, and take a long time to return to normal emotional state. Thus, individuals high in neuroticism should be more likely to experience emotional distress compared to those who score low on the trait (Azeem 2013; Bono and Judge 2004). Previous research by Buhler and Land (2003) using a sample of 119 people working in an intensive care unit from 10 German hospitals confirmed that neuroticism was statistically and positively related to job burnout. The study is consistent with the findings of Piedmont (1993) who found that neurotic individuals

show higher scores of job burnout. McManus et al. (2004), in a 12-year longitudinal study, found that the medical graduates who have high neuroticism scores tend to have a higher level of emotional exhaustion when they become medical doctors. In sum, neuroticism positively predicts job burnout. Thus, the following hypothesis is proposed:

Proposition 1: Neuroticism will have a positive influence on job burnout.

Extraversion and Job Burnout Personality differences enhance the risk of burnout by influencing the individual responses to stressors at the workplace (Spickard et al. 2002). Literally, employees with higher extraversion are associated with lesser burnout risk (Alarcon et al. 2009). According to Iorga et al. (2018), extraversion predicted the strongest toward burnout risk among hospital pharmacists in Romania. Extraversion trait is statistically significant in lowering the score of depersonalization and reduced personal accomplishment. In addition, a 12-year longitudinal study among UK doctors suggested that doctors with higher extraversion reported lower emotional exhaustion level (McManus et al. 2004). Numerous studies have indicated that extraversion is significantly associated with job burnout (Pishghadam and Sahebjam 2012). Zellars et al. (2000) found that extraversion was negatively associated with job burnout dimensions. Lower level of depersonalization and fewer personal accomplishments, specifically by individuals with the extrovert traits, are more likely to value their jobs and perceived the jobs as important as they want to achieve personal accomplishments.

A cross-sectional study by Lue et al. (2010) demonstrated that extraversion was positively and significantly related to job burnout using the sample of medical students in their final year at Taiwan hospitals. Their findings revealed that individuals with positive traits, such as enjoy their works, socialize with other peer, craves for excitement, challenges and like to lead others, would be able to manage stress at workplace, hence, reducing their job burnout. In short, using samples from diversified professions, it can be confirmed that extraversion negatively predicts job burnout (Armon et al. 2012). Those were adult population in Israel (Armon et al. 2012), hotel employees in the United States (Kim et al. 2007), school teachers in Iran (Pishghadam and Sahebjam 2012), and first-year postgraduate residents in Taiwan (Lue et al. 2010). Thus, the following hypothesis is proposed:

Proposition 2: Extraversion will have a negative influence on job burnout.

38.2 Problem Statement

Furthermore, doctors who experience burnout have a higher rate of depressive symptoms and suicide attempts and are often unable to meet the demands of patients (Wieclaw et al. 2008). Doctors are significantly important to the public, and thus their illnesses and sufferings may result in a delay in care delivery, which will have a spillover effect on their patients (Kay et al. 2004; Uncu et al. 2006). Moreover, there

is evidence that those risks that doctors face at workplace result in reduced work performance and absenteeism (Carolan et al. 2017).

According to the Malaysian medical and health services, shortage of doctors in the public sector, and the increasing number of patients seeking treatment at government clinics and hospitals have resulted in greater work burden for doctors especially the junior ones (Rajaendram 2017). It has been reported that junior doctors who worked under severe stress had sought psychiatric help (Today 2018). As reported in the news, on average one medical doctor in public hospitals quits from job and changes to private hospitals especially among the specialists by at least 124 specialist doctors resigned in 2015, while in 2016, 128 specialist doctors left the job (Fong 2016). The former Director-General of Health, Tan Sri Dato' Seri Haji Mohd Ismail Merican, suggested that doctors should be healthy both physically and mentally so that they are able to perform well in their roles as care providers to their patients (Merican 2010).

38.3 Research Questions

The research questions of this study are as follows:

1. Does neuroticism influence job burnout?
2. Does extraversion influence job burnout?

38.4 Purpose of the Study

The purpose of the study is to review the literature and subsequently propose a model linking neuroticism and extraversion and job burnout among medical doctors in Malaysian public hospitals.

38.5 Research Methods

This study is a cross-sectional study, with all variables and data gathered over a set period of time in order to answer the research questions. Data collection will be conducted among medical doctors ranging from UD41 to UD56 in 12 selected state hospitals across Peninsular Malaysia among medical doctors. In this study, the variables will be measured at an individual level.

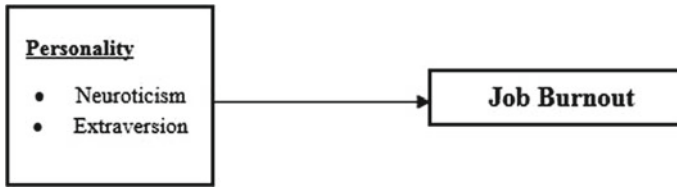


Fig. 38.1 Proposed research framework

38.6 Findings

On the basis of the preceding review of the literature and consistent effect of neuroticism and extraversion on employee's job burnout, a model has been developed as depicted in Fig. 38.1. Neuroticism and extraversion are viewed as independent variables that have a direct effect on job burnout.

38.7 Conclusion

Individual differences in personality impact on how the individual responds to stress. The experience of job burnout stimulates the personality of the individuals to distance themselves from their works. Research has consistently suggested that personality of the individuals such as neuroticism and extraversion can lead to a chronic stress, affecting the health of the individuals, be it the mental health and physical health as well as the organizations that employ them (Foley and Murphy 2015). Medical doctors who have higher levels of neuroticism express more negative emotions, emotional instability, and stress reaction to job burnout and leads to psychological distress (Foley and Murphy 2015), whereas individual with higher levels of extraversion reduced the tendency to experience job burnout since they are capable of deleterious stress outcomes to medical doctor's health status, especially job burnout (Lue et al. 2010). As conclusion, individual personality plays an important role in stress and job burnout. Therefore, exploring personality differences should be taken into consideration for early identification of medical doctors expose to risk of job burnout at workplace.

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Chapter 39

Organizational Climate, Management Support, Workplace Relationships, and Job Stress among College Workers



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Abstract Stress is an important phenomenon and is often associated with performance and health of individuals or workers. Job stress can affect productivity and quality of workers if not dealt with properly and effectively. This study investigates the relationship between organizational climate, management support, and workplace relationship with employees' job stress by conducting a survey among 114 employees working at one of the private colleges in Perlis. The data were analyzed using Pearson's correlation and multiple regression analysis techniques, and the results revealed all the three independent variables, organization climate, management support, and workplace relationship, have a significant negative relationship with employees' job stress. This study had been crucial for organization to understand how the organization climate, management support, and workplace relationship affect the employees' job stress and several recommendations were put forth for the practitioners in enhancing the level of employees' job stress by acknowledging the importance of all variables.

Keywords Job stress · Organization climate · Management support · Workplace relationship

39.1 Introduction

Job stress is an important phenomenon and is often associated with performance, health, and productivity of individuals or employees. Difference from general stress, job stress is specifically a result of work settings. In work settings, various factors can cause stress, such as the work task, the workplace, the job characteristics, role conflict, or workers' capabilities (Jou et al. 2013). Job stress threatens the health of the workers (Bowen et al. 2014) and damages their job performance (Wei et al. 2016;

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Leung et al. 2012). Despite the plenty of studies conducted globally to investigate job stress and its impact on other constructs, for instance, burnout (Khan et al. 2019), organizational commitment (Abdelmoteleb 2019), eating behavior (Okumus et al. 2019), and intention to leave (Lo et al. 2018), only few have been carried out in studying the factors associated with it.

Moreover, the need to study job stress factors in Malaysia has become more important with the increasing rate of job stress. AIA Bhd., one of the leading providers of life and health insurance, reported that based on the AIA Vitality 2018 survey, Malaysia continues to be affected by productivity loss in the workplace that is attributed to significant absence and presenteeism in its workforce. The results also highlighted the increasing prevalence of mental health issues in the workplace with 50.2% of employees having reported at least one dimension of work-related stress. Therefore, the purpose of this study is to determine the factors that are associated with job stress which are organization climate, management support, and workplace relationship. This study was conducted among employees at one of the private colleges located in northern region of Peninsular Malaysia. This study is practically significance to help the organization and individual employees strategized and identify what should be done to reduce the job stress.

39.2 Literature Review

Stress can be defined as an individual's response to external stimuli in the environment. Previous studies have indicated that job stress has a major effect on individual physiology, psychology, and behavior (Burke and Greenglass 2001; Gonge et al. 2002; Johnston and Pollard 1991) and also on job performance (Motowidlo and Manning 1986). It has recently become a persistent global problem and thus of increased interest for researchers (Choy and Wong 2017). Furthermore, adequate tension in the workplace can stimulate the workers' enthusiasm. Chronic stress may inflict damage on all aspects of workers' physiology and psychology (Gärtner et al. 2010). Compared to job stress, ordinary occupational hazard factors (physical, chemical, and biological) will not lead to specific occupational diseases but will inflict damage in the form of nonspecific worker's health issues. In mild cases, job stress can result in suboptimal health and cause job burnout (Luo et al. 2016; Johnstone et al. 2016) among other symptoms. Severe cases may lead to depression (Wang et al. 2017), death (Inoue et al. 2016), and other serious diseases (Biglari et al. 2016; Lazaridis et al. 2017; Jiang et al. 2016). In addition, job stress can cause absenteeism, high employee turnover, and low productivity (Andersson et al. 2001; Elfering et al. 2008; Elstad and Vabo 2008). These consequences will further lead to low quality of life, job dissatisfaction, impaired judgment (Nguyen et al. 2012), decreased workability, difficulties in social relationships (Lu et al. 2012; Valiee et al. 2014), and even accidents (Park and Kim 2013).

Meanwhile, organizational climate has been of interest to researchers and practitioners alike for decades (Schneider 2011; Schneider et al. 2013). From a theoretical

perspective, organizational climate represents employees' holistic conceptualizations of an organization; it captures the sense-making process and shared meaning that employees create about their organizational environment (Reichers and Schneider 1990). It signifies the shared meaning that employees assign to aspects of the organization, like policies, practices, procedures, and behaviors that get rewarded and are expected (Schneider et al. 2013; Schneider and Barbera 2014). One goal of organizational climate is to coordinate employees' thought and action. Consequently, the climate of an organization can be a powerful predictor of employee attitudes and behaviors, as well as firm-level outcomes (Denison and Mishra 1995; Sackmann 2011).

The main assumption underlying the anticipated relationship with job stress is that the shared meaning a climate creates helps to coordinate employees, align employees' goals, and increase effort and at the same time reduce the job-related stress. As such, there has been a strong emphasis in the climate literature exploring the relationship between organizational climate that is related to key organizational outcomes (Andersson et al. 2001; Elfering et al. 2008; Elstad and Vabo 2008) but less likely emphasis on job stress and other occupation-related disease. Generally, poor organizational climate can lead to physical illnesses and has possibility to harm emotional health and mental well-being of employees, especially in terms of depression and anxiety because of the higher stress level. Poor employee's mental health will reduce organizational productivity such as bad performance in dealing with tasks and responsibilities as well as increase costs to cure mental problems among employees.

Employees are vital assets and therefore need to be well managed and valued appropriately. Employers need to create a safe working environment and provide a working environment that reduces stress. Managers can provide organizational support through their managerial role by caring for subordinates' well-being and providing work advisory. By providing managerial support to employees, cost reductions and increased productivities can be obtained (Rhoades and Eisenberger 2002).

Previous research has demonstrated that managerial support is associated with several work-related and well-being outcomes. For example, Hoert, Herd, and Hambrick suggest that employees' perceptions of organizational leadership support for health promotion are related to their participation in wellness activities, perceived job stress levels, and health behaviors (Hoert et al. 2018). Meanwhile, Jones-Johnson and Johnson also found that the perceived managerial support is negatively associated with subjective underemployment (individuals' perception that their inability to perform certain task and the lack of opportunity to develop skills and talents) and psychosocial stress (Jones-Johnson and Johnson 2001). Lack of managerial support was also associated both with negative mood states and, particularly, with low levels of work satisfaction (Bennett et al. 2001).

Employees are supposed to build and maintain positive relationships with others in the workplace. According to Ferris, Rogers, Blass, and Hochwarter, workplace relationship is defined as the information and knowledge exchange between individuals and groups who want to complete their shared mission and vision (Ferris et al. 2009). While Colbert, Bono, and Purvanova referred to workplace relationship as a primary source of emotional support, career development and instrumental support (Colbert

et al. 2016) as employees may have a clear understanding of the working experiences and conditions (Sias 2005), as well as gossip about organizational information that cannot be obtained by external employees (Rawlins 1994). Social relationships that exist among employees in a workplace are important in maintaining an individual's self-esteem, as it fosters a sense of social support. In an environment where co-worker support is high, employees can discuss ideas more openly and honestly and there is a positive relationship to job satisfaction (Bateman 2009).

Furthermore, Blair and Littlewood believed that the low quality of workplace relationships was a potential contributor to employee stress (Blair and Littlewood 1995). In addition, Searle, Bright, and Bochner reported that interpersonal interactions at workplace could reduce stress experiences among the staff (Searle et al. 1999). This is also similar to the study in the hospital sector by Sveinsdottir, Biering, and Ramel where they found that lack of support from supervisors and peers and less satisfaction with the head nurses generated stressful situations among nursing staff (Sveinsdóttir et al. 2006). Contrarily, Allen indicates that employees who are well informed through relationships at workplace report higher levels of job satisfaction and commitment that might reduce job stress among them (Allen 1996). The finding is in line with the study by Brown and Mitchell where they explain that the higher the workplace interaction quality, the better-informed employees are and, in turn, the less uncertain they are about tasks and goals and the better the perceived performance (Brown and Mitchell 1993). Furthermore, strong support from co-workers and supervisors improves work environments by relieving employee stress (Sloan 2012; Edwards and Rothbard 1999) which enhances job satisfaction and performance (Pritchard and Karasick 1973) and subsequently reduces job stress and presenteeism in enterprises and organizations (Cooper et al. 2001; Otsuka et al. 2007).

Apart from that, employees who lack social support will shift their resources from current work tasks to managing high levels of job stress (Halbesleben and Bowler 2007). Additionally, reciprocation of work support between lower level employees and managers may decrease job stress and increase productivity (Eisenberger et al. 2001). Besides that, Khoa, Phuong, Thao, and Tran indicate that high-quality workplace relationship was negatively and significantly related to job stress (Khoa et al. 2018). This is implied by the fact that, within positive workplace relationships, employees are powered by instrumental resources and emotional support from supervisors and peers, which results in a lower level of reported stress.

39.3 Methodology

Figure 39.1 describes the framework for this study. The independent variables are organizational climate, management support, and workplace relationship; the dependent variable is job stress. This study utilizes 114 employees working at a private college in northern region of Peninsular Malaysia. A set of questionnaires had been given to the respondents which consist of five sections. Section A asked respondents on the background information such as gender and age; in section B, it consists of

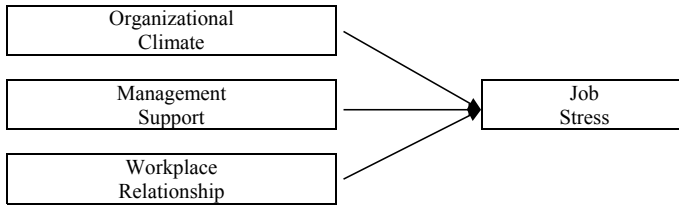


Fig. 39.1 Research framework

five items that are related to job stress which were adapted from Dwivedi and Purohit (2016). Furthermore, in sections C, D, and E, all items were adapted from Cooper et al. (1988) which dealt with questions on organizational climate (7 items), management support (6 items), and workplace relationship (6 items). All items were rated on a five-point Likert scale. The wording of the items was modified to accommodate the context of the present study. The scales have been found to have sufficient levels of reliability and validity. Bivariate correlation was used to test the relationship between the study variables, and multiple regressions were utilized to test the main effect of independent variables with dependent variable.

The hypotheses for this study include the following:

- H1 There is significant negative relationship between organizational climate and job stress.
- H2 There is significant negative relationship between management support and job stress.
- H3 There is significant negative relationship between workplace relationship and job stress.

39.4 Results

The survey was administered to the employees working at a private college in northern region of Peninsular Malaysia. Among those who participated, majority of the respondents were female (51.8%), while 48.2% is male. Most of the respondents (55.3%) were married, in the range of 30 to 39 years old (52.6%), have a Master's degree (41.2%), and have working experience between 11 and 15 years (39.5%).

The internal consistency of each measurement was determined by calculating Cronbach's alpha. All items of organizational climate, management support, workplace relationship, and job stress were found to have alpha values of 0.901, 0.794, 0.786, and 0.875, respectively. The initial relationship between all independent variables with job stress was investigated using Pearsons correlation coefficient. The findings reveal that there was a strong negative correlation between organizational climate ($r = -0.796$, $p < 0.01$), management support ($r = -0.794$, $p < 0.01$), and

Table 39.1 Descriptive, internal consistency reliabilities, and inter-correlations

Variables	Mean	SD	OC	MS	WR	JS
Organizational climate (SOC)	1.665	0.586	(0.901)			
Management support (MS)	2.098	0.516	0.837*	(0.794)		
Workplace relationship (WR)	2.602	0.489	0.701*	0.659*	(0.786)	
Job stress (JS)	4.365	0.594	-0.796*	-0.794*	-0.704*	(0.875)

* $p < 0.01$

Table 39.2 Regression results between organizational climate, management support, and workplace relationship with job stress

Variables	β	t	Sig.
Organizational climate (OC)	-0.321	-3.226	0.002
Management support (MS)	-0.371	-3.927	0.000
Workplace relationship (WR)	-0.234	-3.220	0.002
R	0.846		
R-Square	0.715		
Adjusted R-Square	0.708		
F-Value	92.16		

Dependent variable Job stress

workplace relationship ($r = -0.704, p < 0.01$). A summary of the means, standard deviations, reliability, and correlations is provided in Table 39.1.

Regression analysis was conducted mainly to examine the hypotheses in this study. Table 39.2 shows that all the hypothesized relationships were significant. Organizational climate ($\beta = -0.321, p < 0.01$), management support ($\beta = -0.371, p < 0.01$), and workplace relationship ($\beta = -0.234, p < 0.01$) were found to have a significant and negative relationship with job stress. Overall, the variance explained by the set of predictors is 70.8%. Hence, hypotheses H1, H2, and H3 were supported.

39.5 Discussion

The main purpose of this study is to determine factors associated with job stress. It is found out that all the independent variables which are organizational climate, management support, and workplace relationship, have a significant negative relationship with job stress.

The first hypothesis suggested that organizational climate has a significant negative relationship with job stress. The result obtained is in line with the previous study conducted by Vong, Ngan, and Lo; their study shows that stressful employees working in organizations characterized by unsupportive organizational climate had far less desire to stay with the organization than those working in organizations with supportive organizational climate (Vong et al. 2018). Generally, poor organizational

climate can lead to physical illnesses and has possibility to harm emotional health and mental well-being of employees, especially in terms of depression and anxiety because of the higher stress level. Poor employee mental health will reduce organizational productivity such as bad performance in dealing with tasks and responsibilities as well as increase costs to cure mental problems among employees. Changes in work organization and work practices often cost little or nothing, and they can bring important economic advantages both in terms of organization efficiency and in reducing the burden of stress.

Meanwhile, this study also revealed that management role did have an impact on job stress. Westerlund et al. found that lack of managerial support is one of the most commonly cited variables that lead to depression, stress, and anxiety (Westerlund et al. 2010). That is why management should take part in providing positive behaviors as it helps workers to manage all kinds of difficulties, including mental health problems so that employees will upgrade their performance. A good leadership and management is one of the main factors in ensuring good mental health and well-being of employees. The way they are treated by their manager and the behavior of all the leaders in the organization makes a big difference in how they feel about themselves and their work. Hence, they will perform their tasks well and provide a better job quality as a sign of gratitude for the good behaviors shown by the leader.

Thus it is concluded that positive relationship in workplace had an impact on employees' job stress and well-being. Robertson et al. stated that employees will interact more with their colleagues during working hour rather than their family; therefore, positive interactions between workers may create a better work environment and also can increase levels of productivity and job satisfaction (Robertson et al. 2019). In contrast, toxic or negative relationships in the workplace can increase the stress levels among workers, as well as feelings of isolation. A negative interaction may harm employees' mental and physical health, as well as lowering employees' morale and motivation due to stress and isolation. Therefore, management should provide diversities of activities to strengthen the relationship between all members of the organization.

39.6 Conclusion

The results of this study should be interpreted with caution considering its several limitations. Firstly, this study only focused on employees working in one of the private colleges in the northern region of Peninsular Malaysia and was a cross-sectional study. As such, the conclusions made from this study only hold true for specific sample as well as a specific period of time and may not be generalizable to a larger population and in different contextual settings. Therefore, future research should consider a larger sample in other industries. A comparative study on employees' job stress among different organizations also needs to be carried out as different organizations possibly commit to different levels of factors that will lead to job stress.

As such, this could make a difference in understanding the factors and prevention strategies that could be employed by the organization.

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Chapter 40

A Compilation and Analysis of Key Criteria for Land Bank Development



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Abstract Land bank is one of the most important instruments of sustainable development of properties. However, land banking is still considered very risky as the actual use of land is difficult to fill (Van Dijk and Kopeva in *Land Use Policy* 23:286–301, 2006). Gilbert (*Habitat Int* 33:425–435, 2009) argues that land bank managers need to know how and why they need to take steps to increase the market value of the land. It focuses on not only the decision that has been made, but also how that decision was made (Williamson et al. in *Land Administration For Sustainable Development* (p. 487), 2010). This paper explores the key criteria needed for a successful land bank development. The first phase includes a thorough review of more than 30 sources of literature relevant to the topic, while the second phase is a survey of five selected developers in Penang, Malaysia. Content and quantitative analyses were performed on the data, respectively, identifying the connection between both the literature and developers' perspectives. The study presents interesting findings in that it lends support to existing literature, such as practices in land bank development do affect land bank development success. The data received from respondents have implications for the level of performance that is perceived by developers, as well as the experience in land development process. This piece of work serves as a corroborative evidence to improve the satisfaction of industry players, policy makers and investors. The paper ends by recommending that the study be repeated in Malaysia in the context of other stakeholders to enrich the findings.

Keywords Criteria · Land bank · Land development

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40.1 Introduction

Today, the Malaysian land development industry is evolving at a record pace to new levels, well beyond the dreams of the most original industry pioneers. The need for land development is steadily increasing because of massive population growth and changing tastes of how the populace wants to live. Additionally, there has been a mass exodus of workers from villages to towns. According to Ahmad et al. (2009), Malaysia is among the fastest growing developing countries in the East. Since her independence in 1957, together with the nationwide progress and development, rapid urbanization has taken place, leading to massive migration of people from rural villages to urban and newly developed areas. It is generally recognized that in any urbanization process, one of the most important issues is space. This scenario shows the importance of real estate developers in catering for the incessant property demands.

However, the growing problem of vacant and abandoned properties has been worrying many parties. The properties that are left behind can spur a cycle of blight, crime and decreased property values, consequently draining the city resources, threatening the safety and stability of the surrounding neighbourhoods. Because the issues leading to property vacancy are diverse, an equally diverse and comprehensive set of tools is needed in response. The land bank is quickly becoming one of these tools. The land bank is seen to be able to solve some of the issues related to land speculation (Gilbert 2009); land fragmentation (Van Dijk and Kopeva 2006); land conservation (Cummiskey 2001); to encourage the use of agricultural land (Coimbra 2011); to control social pressure arising from the disproportionate distribution of resources, and the problem of high population and unemployment (Harts-Broekhuis and Huisman 2001).

Based on the results of a comprehensive compilation and analysis of preliminary literature review, this paper seeks to present a new agenda for further research on the key criteria needed for a successful land bank development. This aspect had triggered the subsequent research question of what is the strategy to obtain a successful land bank development in the context of past literature and the real estate developers' perspective. The paper's structure, exempting the introduction, begins with a concise literature review that explores land banking and strategy implementation. Ensuing section presents the applied research methodology by highlighting the approach in collecting and analysing the data. The subsequent section discusses various topics concerning the real estate developers' views on current practices of development and strategy as a cross-comparison. The last section concludes with a general discussion followed by suggestions for further research.

40.2 Literature Review

Generally, land bank is a process of buying or acquiring land and property, storing and then developing them for certain needs, thereby adding value and returning the productive use of these land (Kelly 2016; Bao et al. 2012; O'Brien et al. 2005 and

Cummiskey 2001). In fact, it is referred to as a collection of vacant land and makes it easier to use when needed (Green et al. 2016).

40.2.1 Existing Strategies with Respect to Land Bank Development

Some researchers have set out to prepare a taxonomy of land development strategies (Kahne 1975; Gallimore et al. 2000; Roberts and Hennebery (2007); Sah et al. (2010); Parker 2014; Parker and Parker 2016). Several others have presented land development strategies according to stages of development process, have a more focused analysis on a specific area of the development, or have attempted to categorize land development strategies according to planning frameworks. Olsson et al. (2015) proposed an iterative model for real estate development projects. The model explained the different phases that follow one another, though at the same time certain processes must be repeated more or less continuously throughout the entire real estate development in terms of loops—an iterative process.

Other researchers were more comprehensive in their coverage of land development strategies, but attempted to categorize them differently. The model suggested by Healey (1992) focused on distinguishing levels of analysis rather than placing the analytical emphasis on typologies of actors, events and interests. Furthermore, another study produced a quantitative decision-making model for land developments in land banking decisions and strategies using a Monte Carlo simulation for China's property developers (Bao et al. 2012). Finally, the work by Pyhr et al. (1999) highlighted several real estate cycles in a micro-decision-making contexts and discussed their strategic implications for investors and portfolio managers, but there was no indication of the methodology used. Clearly, there is a limited research that has attempted to produce an expansive collection of land bank development strategies. The summary of the strategies as well as key policies with respect to the land bank development adopted from Land Bank established in America, Australia, Asia and Africa, is presented in Table 40.1.

40.2.2 The List of Criteria Applicable for Land Bank Development

Many researchers (e.g. Maruani and Amit-Cohen 2011; Wilkinson and Reed 2008) noted the importance of market analysis in real estate development. Kahr and Thomsett (2005) explained market analysis as an action to identify the trends in demand and supply for the sake of product marketability and competitive advantage against business rivals. For the real estate developers, this is considered as homework before taking up the project since it involves feasibility study and thorough observation of

Table 40.1 Existing key policies and strategies with respect to land bank development:

Actions taken
Acquires and assembles properties to support development and promote economic growth
Manages an inventory of surplus public property
Disposes of public property in a transparent manner
Collaborates with the developers, non-profit organizations, economic and community development corporations, and state and local units of government on development projects
Facilitates the reutilization of vacant, abandoned, and tax-foreclosed property
Efficiently holds such property pending utilization
Assist entities to assemble and clear the title of such property in a coordinated manner
Provides financial services to promote and facilitate access to ownership of land for the development of historically disadvantaged persons
Holds the land temporarily and often exchanges it with landowners in the land consolidation project who are asked to sell land for a nature restoration project
Carefully plans the use and protection of land
Acquires large quantity of land in periphery regions around major cities in order to achieve a smooth implementation of plans
No more Land Use Right transaction via negotiation is allowed, all the LUR to be supplied for business and industrial use in the first hand market should first go into the land bank of the city governments via the land banking procedure of land banking authorities
Implements an Environmental Due Diligence (EDD) System wherein it conducts environmental impact assessment and monitoring as a requirement in financing projects
Encourages and strengthens compliance of clients with applicable environmental laws and regulations
Reduces credit risk in the bank's gross loan portfolio
Broadens the power to independent authorities, approved and created by local governmental agreements and practical cooperation as sweeping tax foreclosure law reform
Property classification according to site characteristics
Consolidates municipal real estate records linked to GIS data as a property management tool, rather than just geographic information
Good intergovernmental cooperation
Incentivizes private realtors to represent city-owned properties
Ability to waive delinquent property taxes
Administration and legal capability to sell properties at below-market value
Expedites judicial foreclosure process and system
Property acquisition goals that are integrated with long-term consolidated plan
Integrated data management with regional collaboration and planning efforts

the industry. Extensive research on the markets may allow the developers to make decisions concerning design, site, design, section numbers, size and timing (McDonagh 2010). Also, with fine-grained analysis and adequate information, they will be able to prepare financial projections in relation to the targeted market.

Basically, the real estate developers need market information before commencing the preliminary design phase. Miles et al. (2000) pinpoint several dimensions that might be beneficial for the developers in undertaking the market analysis. They mainly include employment trends and population growth rates in the market area, number of properties that market can absorb, percentage of market demand and targeted customers, as well as expected operating revenue or income of the project. Most importantly, the significant demographic information including market statistics, population base, population density, projected growth, growth patterns and incomes must be investigated (Sorenson 1990). The analysis is very valuable to gain insights into project designs and feasibility, market velocity, regulatory reaction, marketing plans and basic documentation of zoning (Wilkinson and Reed 2008).

40.3 Methodology

Utilizing a conceptual analytical approach, this comprehensive literature review has involved extensive note taking to highlight any and all possible references to strategies and key criteria. They are defined as a reference to any condition or element that is deemed necessary in order for the land bank development to occur successfully. Those articles containing references to strategies and key criteria of land bank development are then analysed deeper for the purpose of coding the identified constructs. Part of this analysis involves differentiating and combining the data collected (Miles and Huberman 1994, as cited in Finney and Corbett 2007). Emphasis is placed on the meaning of the words rather than the words themselves. Therefore, all strategies and key criteria, regardless of description, are noted before commencing the sorting phase which would place key criteria like categories. Further, opinions from real estate developers are considered as the selected five are all based in Penang, Malaysia.

40.4 Main Results

The second phase of this research is conducted via web-based survey of land bank and land development identified from the literature review. Specifically, five developers are identified to obtain an in-depth look at the existing land bank operations and specific policy development and practices. The selected real estate developers are surveyed on questions relative to the decision-making concept and process.

Synthesizing the results of the literature review, several themes emerge as to the common practices in land bank strategy. The following figures identify the most

prevalent practices, and provides a brief analysis of how these practices are used to provide optimal results in a land development. Primarily from the literature review, Fig. 40.1 outlines the current land bank strategies and Fig. 40.2 outlines the main criteria.

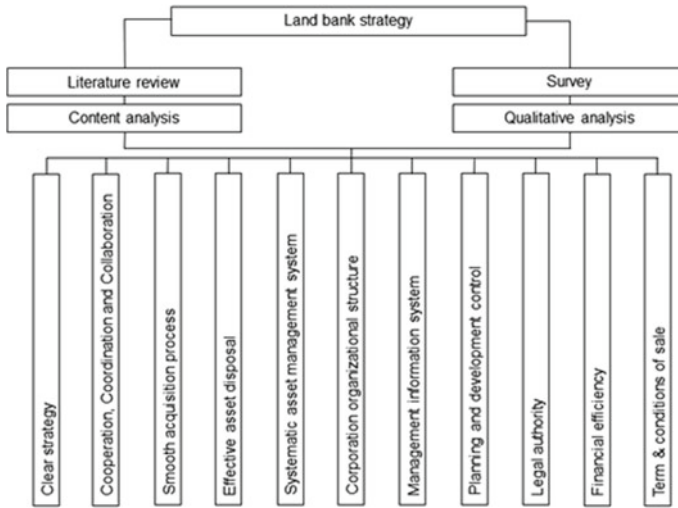


Fig. 40.1 The composition of land bank strategy for a succesful land development

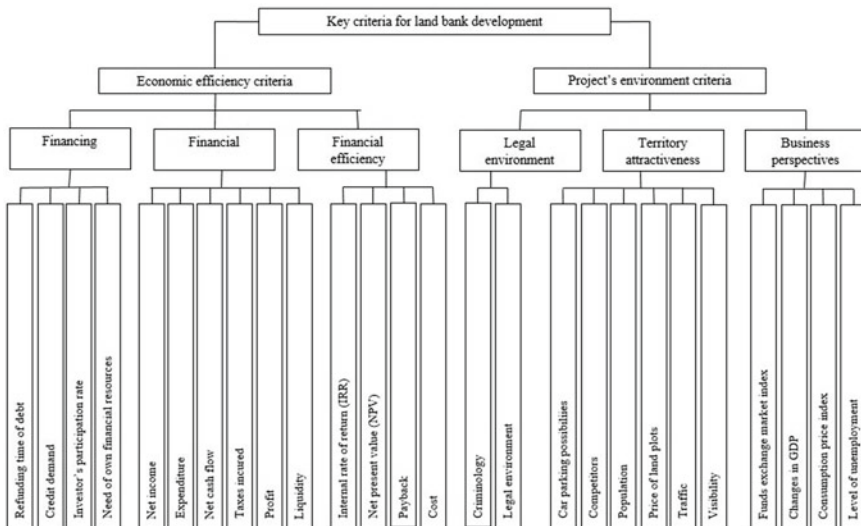


Fig. 40.2 The key criteria for land bank development

Based on the results recorded, the researcher decided to group the factors into several variables which are financing, financial analysis, legal environment analysis, techno-economic analysis of the object (attractiveness of the territory), and investment environment (business perspectives) analysis. Financing variable is highly dependent on bank loans (Gunji and Yuan 2010). Financial analysis, on the other hand, is considered as a suitable tool for the following reasons: to assess a company's financial and economic situation, and guiding the decision-making processes of companies and financial markets and to embrace sustainability issues within its logic, under some kind of scheme or framework that permits the evaluation of a company's sustainable management system and the impact of sustainability issues on financial performance (Castro and Chousa 2006). Meanwhile, legal environment analysis is positively and robustly associated with per capita growth, physical capital accumulation and productivity growth (Levine 1998). Techno-economic analysis of the object (attractiveness of the territory) mostly depends on project type. Finally, investment environment (business perspectives) analysis is the organic whole of a series of key elements of production and the conditions of production that could promote the increment of capital.

Further more, Table 40.2 shows the results obtained from the survey of five private developers on the decision makers, the ways to make decisions, decision-making criteria, decision-making methods, problem in decision making and decision-making process. Figures 40.3, 40.4, 40.5 and 40.6 show the decision-making process by five selected developers.

In Fig. 40.3, the decision-making process by D1 has two main functions only. This process would analyse a basic procedure to evaluate the financial project by breaking down the process into a decision tree analysis. The procedure would then become a basis for further discussion of the project profitability level before the planning phase. The flowchart by D1, however, does not provide any decision-making point. Nevertheless, the process clearly defines the decision maker participation at different stages of the decision tree analysis.

Figure 40.4 shows the decision-making process by D2 which appears simpler and straightforward than that of D1. The developer uses only discussion to produce the needed results. This process, however, does not emphasize on the goal towards getting a consensus decision. It may involve adversarial debate and the formation of competing factions. These dynamics may harm group member relationships and undermine the ability of a group to cooperatively implement a contentious decision. However, the process includes and respects all decision makers at every stage.

On the other hand, the decision-making process by D3 is more theoretical in nature. This is because the decision-making process shows the decision point (refer Fig. 40.5) that identifies the step that occurs before the action is taken. The step entails the decision with a "yes" or "no" question that helps the developer evaluate the consequences of profitability. However, the flowchart has flaws where it does not have an allocation of decision maker and decision method or tool.

Figure 40.6 shows both D4 and D5 decision-making process. Apparently, the D4 decision-making process is the simpler between the two. The activity begins with the inception and feasibility study and finishes with scheme design. The flowchart

Table 40.2 Decision making concept by developer

Developer	Who decide?	How make?	What criteria?	What tools?	What problems?
D1	<ul style="list-style-type: none"> • General manager • Executive team 	<ul style="list-style-type: none"> • Discussion • Direction by General manager 	<ul style="list-style-type: none"> • Location • Demand • Land • Environment 	<ul style="list-style-type: none"> • Market study • Experience • Decision tree • Cash flow 	<ul style="list-style-type: none"> • Land purchase • Labour supply
D2	<ul style="list-style-type: none"> • General manager • Board committee 	<ul style="list-style-type: none"> • Discussion • Direction by General manager 	<ul style="list-style-type: none"> • Demand • Environment 	<ul style="list-style-type: none"> • Market study • Experience • Account method 	<ul style="list-style-type: none"> • Capital • Conflict in management
D3	<ul style="list-style-type: none"> • General manager • Executive team 	<ul style="list-style-type: none"> • Discussion • Direction by General manager 	<ul style="list-style-type: none"> • Location • Profit 	<ul style="list-style-type: none"> • Market study • Experience • Account method 	<ul style="list-style-type: none"> • Not applying current method • Labour supply
D4	<ul style="list-style-type: none"> • Manager • Executive team 	<ul style="list-style-type: none"> • Discussion • Direction by General manager 	<ul style="list-style-type: none"> • Location • Capital • Demand 	<ul style="list-style-type: none"> • Market study • Experience • Cash flow 	<ul style="list-style-type: none"> • Control by manager • Labour supply • Profit
D5	<ul style="list-style-type: none"> • Manager • Executive team 	<ul style="list-style-type: none"> • Discussion • Direction by General manager 	<ul style="list-style-type: none"> • Demand • Resource • Profit 	<ul style="list-style-type: none"> • Market study • Experience • Account method 	<ul style="list-style-type: none"> • Land purchase • Material cost

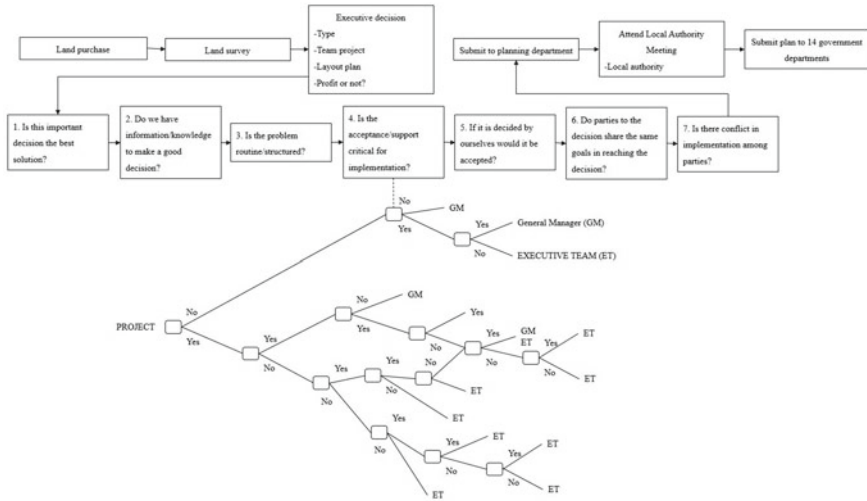


Fig. 40.3 Decision-making process by D1

however, shows only the activities that are taking place before the planning phase. No decision-making element is included in the diagram. On other words, the chart is about the process of activities, not the decision-making process itself.

Similarly, D5 has the process of decision making that includes a decision method and decision maker contribution. The process is more realistic compared to the decision-making process by D4. The decision-making process shows only one activity has a decision method (discussed), and the process simply involves the interaction between the manager and project team at the first stage of the activity.

Overall, the decision-making processes are simpler and usable in understanding the decision makers. Both decision-making process by developers D1 and D3 are towards the theoretical concept compared with the others whereby the basic method used is the decision tree technique and flowchart which includes decision point. Figure 40.7 summarizes all results from the analysis. The flowchart is developed by integrating all data from Table 40.2 and Figs. 40.3, 40.4, 40.5, 40.6 and 40.7.

To conclude, developers prefer making decisions using intuitive discussion, decision tree and simple financial method. Although flowchart is a very straightforward flow of activities, the actual decision-making process does not use symbols in reaching a decision.

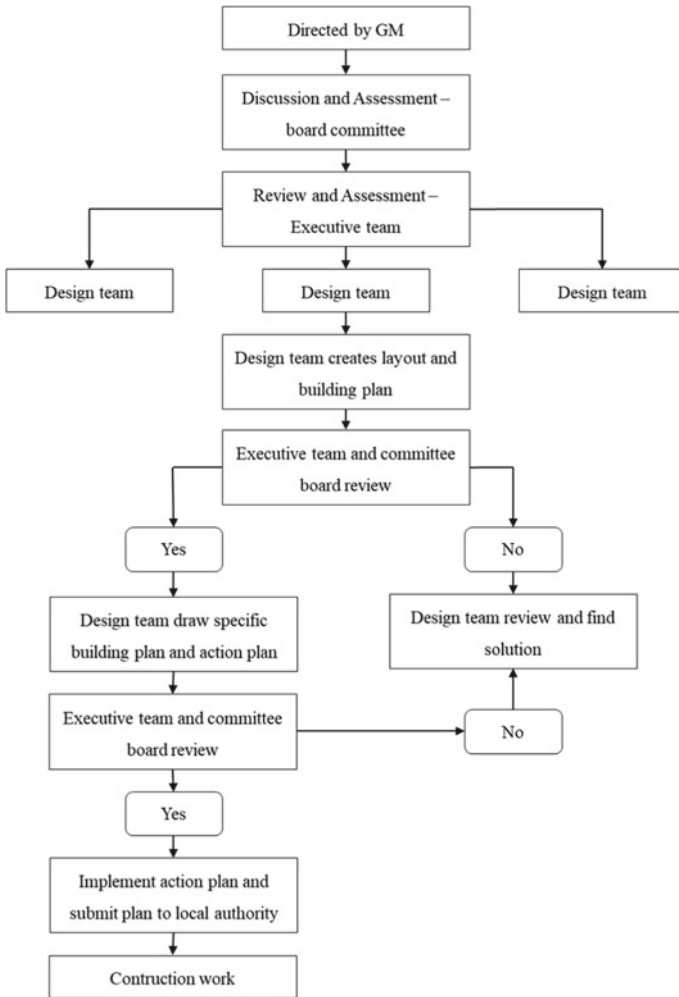


Fig. 40.4 Decision-making process by D2

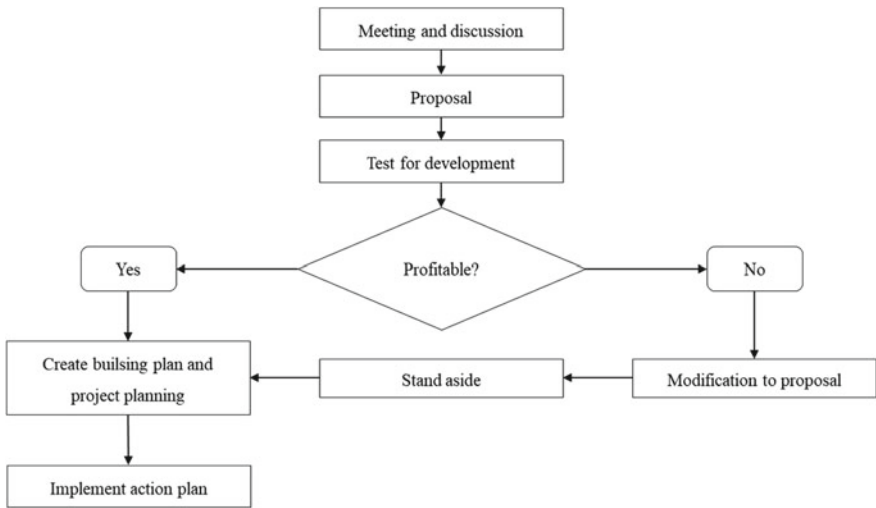


Fig. 40.5 Decision-making process by D3

40.5 Conclusions

It is expected that many more examples of new and innovative ways to deal with land will emerge. The barriers will continue to perplex the smartest of policy makers and practitioners, but the urgency of inner-city rapid land development will undoubtedly push both practitioners and policy leaders towards innovation and action in the near future. In summary, land banking means choosing how to select applicants for land, what spatial developments to stimulate, how large new farms and parcels must be and what type of tenure to distribute land in. This research has some practical implications such as identification of basic criteria for land bank development and helps industry players and investors to make decisions objectively. Even though land banks are differently organized and financed in different countries, they all prove to be very effective in the aspect of local historical, sociological, economic, cultural and other specificities. In view of the limitations of the above-mentioned literature and based on the recommendations of other researchers as well as recommendations by the developers, there is a need to focus future research efforts on studies which focus mainly on other stakeholders in Malaysia to enrich the findings.

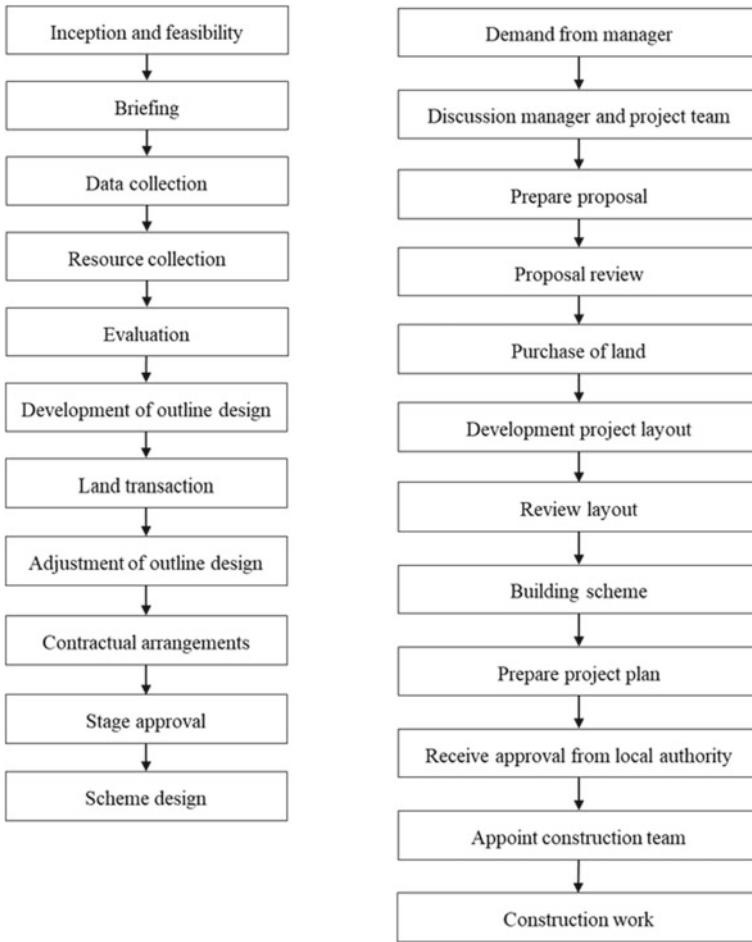


Fig. 40.6 Decision-making process by D4 and D5

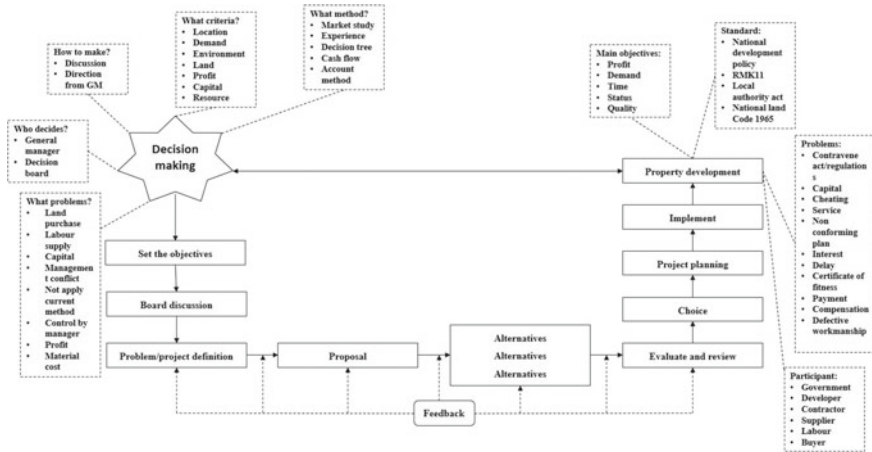


Fig. 40.7 Summary of decision-making process by private developer

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Chapter 41

Sex Education for Children: A Betterment Pathway for ASEAN Member States



**Nur Ain Yaacob, Ainatul Fathiyah Abdul Rahim, Nurul Afzan Najid,
Rafizah Mohd Noor, and Nursyahida Zulkifli**

Abstract One of the main targets of ASEAN Cultural and Social Community (ACSC) 2025 is to improve education and training, especially in sex education, to enhance socio-economic development and gender equality in ASEAN. However, sex education in ASEAN nations is challenged by taboo and conservative cultural values. According to a recent global data conducted by UNICEF, child sexual abuse is experienced by one in every five females and one in every 11 males across the world. Besides, there are about 11–22% girls and three to 3–16.5% boys who are sexually abused and harassed in Southeast Asia. Other than that, UNICEF also reported that children who are exposed to sex education have fewer partners and become sexually active much later in life, than those without sex education. Therefore, it is important for ASEAN governments to set an explicit goal and political commitment in overcoming this problematic issue. Providing sex education to children is regarded as the best asset that any government can give to empower them for a better future. Hence, the present article aims to provide a comprehensive literature review of the existing sex education programs in selected Western countries (the United States of America, the United Kingdom) and in several ASEAN member states (Malaysia, Singapore, Vietnam). The literature review reports observations and implications for sex education policy and practice, and recommendations for future research for youths are outlined.

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Keywords ASEAN · Political commitment · Sexual abuse · Sex education · SDG 5

41.1 Introduction

ASEAN Socio Cultural Community 2025 aims to improve the quality of life of the people through cooperative activities that focus on human development, environmentally friendly programs, and toward the promotion of sustainable development to face the future challenges of ASEAN (Asean Socio Cultural Community 2016). It can be done by providing people with equitable access to human development opportunities by promoting lifelong learning education, human resource training, encouraging innovation, the use of English language, the use of ICT in socio-economic activities, and entrepreneurship. One of the main targets of ASEAN Socio Cultural Community 2025 is to improve education and training, especially sexuality education, to enhance socio-economic development and gender equality in ASEAN (Yasukawa 2015). Sex education can be defined as the provision of information about bodily development, sex, sexuality, and relationships, along with skills-building to help young people communicate about and make informed decisions regarding sex and their sexual health. Sex education is crucial in providing children with skills, knowledge, and values about sexual and social relationship in order to produce better decision makers because they are the best assets to govern future country development (United Nation Educational Scientific and Cultural Organization 2009). Sex education is regarded as a key to prevent any sexual behavior by teenagers. Therefore, it needs to be learnt from primary school when students are between 6 and 12 years old. It is the best time when students start to sexually mature until they become adolescents (Shahnaz 2017). However, sexuality education in ASEAN nations is challenged by taboo and conservative cultural values. According to a recent global data conducted by UNICEF, child sexual abuse is experienced by one in every five females and one in every 11 males across the world. Besides, there are about 11–22% girls and 3–16.5% boys who are sexually abused and harassed in Southeast Asia. In addition, over 40% of adolescent girls in poor countries in ASEAN feel that wife-beating is acceptable in some circumstances. Meanwhile, about 34% of women have experienced some forms of physical or sexual violence by their partners in their lifetime (Yasukawa 2015). These numbers insist that sexuality education must be substantially developed in order to help young people understand and share their circumstances.

Sex education in ASEAN nations is challenged by taboo and conservative cultural values that will cause dangerous consequences for thousands of youths. For example, in Malaysia, in 2010, Nik Abdul Aziz Nik Mat, the Kelantan *Menteri Besar* (Chief Minister), reported in *The Star* that teaching sex education would be like teaching a thief how to steal, and that the move would encourage children to learn about sex among themselves, resulting in negative incidences like unwanted pregnancies and baby dumping. It also reported that boys are better informed about sex

as the topic is a greater taboo for girls—due to girls being expected to keep their virginity and also because sexual activity is not openly acknowledged (The Star 2010). UNESCO (United Nation Educational Scientific and Cultural Organization 2009) listed various opinions such as sex education should not be implemented because it will make teenagers more sexually active, it corrupts the mind of teenagers and children, and it should be the duty of parents to educate their children on sex. Parents are simply opposed to this implementation (Kaler 2018). Most teachers teaching sex-related topics simply base it on what is necessarily found in textbooks only. The teachers were found not relating it to a wider scale concerning sexuality as the topic was deemed to be taboo. With regard to the teaching methods of teachers, the respondents specifically opined that they felt it was ineffective due to lack of conviction or a sense of awkwardness among teachers toward the topic (Talib et al. 2012).

Sex education in Singapore creates a culture of shame and fear, discouraging young people from seeking information and help. This is especially harmful if they have faced sexual abuse, unplanned pregnancies, or sexually transmitted infections. Shame is the biggest barrier to talking about sex (Lau 2016). According to Sid Azmi, who grew up as a Malay Muslim in Singapore, young people feel a certain discomfort and shyness when the topic comes up. We also use shameful words to describe people who are open about sex, such as ‘slut’ or ‘dirty-minded’. However, sex education in Vietnam is also challenged by taboo and conservative cultural values as young women who desire discussion about sexual issues accept that cultural ‘barriers’ are formidable. Their desires conflict with the traditional familial norm of ‘silence’ regarding sexual matters. Consequently, knowledge is sought outside home, specifically from peers and the media (Rawson and Liamputtong 2010). In addition, open conversation about sex with a stranger is not normal in any country. The silence surrounding this topic masks a larger issue in Vietnam, whereby most young people aren’t learning about safe sex from a reliable source. Schools expect students to learn it from the Internet, and parents expect children to learn from school; it ends up that nobody really talks about sex to inform young kids. The lack of education and embarrassment to talk openly about sex quite often means that they end up with the wrong information. In the Vietnamese society, sex before marriage is still considered taboo. As a result, family planning resources are widely accessible to married couples but less available to the young and unwed who, particularly in urban areas, wait longer to get married (Gibson 2017).

According to a recent global data conducted by UNICEF, child sexual abuse is experienced by one in every five females and one in every 11 males across the world. Besides, there are about 11–22% girls and 3–16.5% boys who are sexually abused and harassed in Southeast Asia. In addition, over 40% of adolescent girls in poor countries in ASEAN feel that wife-beating is acceptable in some circumstances. Meanwhile, about 34% of women have experienced some form of physical or sexual violence by their partners in their lifetime (Yasukawa 2015). These numbers insist that sexuality education must be substantially developed in order to help young people understand and share their circumstances.

41.2 Practices in Several ASEAN Member States

41.2.1 *Malaysia*

Malaysia is aware that the number of sexual illnesses among teenagers can be overcome through education. Previous research has shown that early sexual education can decrease sexually risky behavior. In Malaysia, the subject of sex education is still in discussion. Although there is no specific subject entitled Sex Education in school, the Ministry of Education has introduced some subjects related to sexuality and reproductive health such as Islamic Studies, Health and Physical Education, Moral Education, Science, and Biology for primary and secondary schools. Effective from 2011, primary school students began new syllabus that focuses on colorful pictures that teach children important information like ‘good touch’ and ‘bad touch’, helping them differentiate between them. This teaching can indirectly overcome pedophile issues and sex abuse among children. Physical Education and Health textbooks for Form Five students state that ‘pre-marital sex will sully the family’s name, ruin the future of teenagers, and raise the risk of sexually transmitted infections (STIs), like HIV/AIDS’ (Satpal 2018).

The existing subjects related to the topic of sex education cause students not to look at the comprehensive sex-related matters (Dawi 2009). For example, a biology teacher explains the physical aspect, while religious teacher explains religious values and moral teacher explains the social consequences of sexual activities. These teachers seem to repeat the same information in their teaching (Ihwani et al. 2015). Due to repeated information on sexual education at schools, a study conducted by Talib et al. (2012) analyzed sex education in schools across Malaysia. They found that most participants felt that information on sex was insufficient. With regard to teaching methods, teachers remain embarrassed and seem unwilling to teach sex-related topics because they are ill-prepared and untrained to explain in a proper way. Jaafar and Lee (2009) found that 58.2% of the students stated that information given in books does not fully cover the important aspects of sex education.

As for now, the Ministry of Education, Malaysia is yet to determine the suitable age to learn about sex education, what should be taught, and who is qualified to teach sex education to students. It gives a signal to the Malaysia government that more efforts should be made since the implementation of sex education is still in the process of evaluation. The opinions and views of various parties account for good results.

41.2.2 *Singapore*

Singapore introduced sex education in 2000. A survey conducted by the Singapore Planned Parenthood in 1991 revealed that schools are a major source of information which includes sexuality matters for Singapore youths. Teachers are the main actors

to consult on such issues. As a result, sex education curriculum was designed to provide schools with teaching resources to educate youths regarding sexuality.

The Ministry of Education (MOE) has implemented a holistic and secular sexuality education curriculum in schools to meet students' developmental needs at different stages. The curriculum currently comprises two main programs: The Growing Years (GY) and Empowered Teens (eTeens) that span from primary to junior college (JC)/centralized institute (CI) levels (Liew 2014).

The Growing Years (GY)

GY focuses pupils from primary five up to the junior college or centralized institutes. The topics covered in GY include building a rewarding and responsible relationship, dating, going steady and marriage, sexual health and behavior, consequences of teenage sexual activity, and pregnancies. It also covers the best course of action for teenagers to protect themselves from sexually transmitted infection (STIs) and unwanted pregnancies.

eTeens

The program is conducted for students at the secondary 3 and JC/CI Year 1 levels and comprises mass talks and classroom-based lessons (Ministry of Education 2016). It aims to provide accurate information on STIs, HIV and protection from the health perspective, increase awareness, and knowledge of the different STIs and HIV, modes of transmission and protection, abstinence, skills for decision-making, assertiveness and rejecting peer pressure to have pre-marital sex, and the consequences and impact of STIs/HIV, and ultimately empower students to make informed decisions (Liviniyah 2018).

Both programs aim to enhance students' understanding of the physiological, social and emotional changes they may experience as they mature, build relationships and make decisions in sexuality matters. On top of that, it also aims to provide students with accurate and adequate knowledge on human sexuality and the consequences of sexual intercourse, develop intra- and interpersonal problem-solving, decision making and communication skills as well as inculcating positive values and attitudes toward sexuality (Liviniyah 2018). Sex education programs in schools are constantly reviewed by MOE to ensure that they remain relevant and serve the needs of students (Liew 2014).

41.2.3 Vietnam

According to The Alan Guttmacher Institute (The Alan Guttmacher Institute 1999), Vietnam is 1 of 3 countries which has the highest reported abortion rates in the world with 83 per 1000 women aged 15–44 reported to have had an abortion. Ten years later in 2009, Vietnam was ranked first in Asia. In addition, a 2009 national report shows that abortion rates among teenagers increased 20% and among the cities in Vietnam, the highest abortion cases among teenagers were in Ho Chi Minh City,

which has been increasing steadily around 2499 cases per year (Dao 2011). Besides, the World Health Organization reported in 2009 that 40% of new HIV infections in Vietnam were among young people (Dao 2011). Therefore, sexual and reproductive health issues are serious health concerns for teenagers in Vietnam.

Vietnam does have sexual education in school. However, like other ASEAN countries, there are no specific subjects on sexual education. Sex education is normally taught in biology, and moral class and teachers do not received proper training. Children in Vietnam begin sex education in the fifth grade (10–11 years).

Rapid changes on sex education in schools must be made. Sex education must be made available for children aged between 3 and 16 years, covering a range of complicated subjects depending on the age of the child. Current topics include the reproductive cycle and formation of the human body, as well as advice on raising children. The topics covered are inadequate because children are taught about reproductive system rather than a healthy attitude to sex. Experts suggest that sex education must include information on ejaculation, spermatorrhoea, masturbation, gender identity and advice on how children can protect themselves from and respond to sexual abuse.

In 2014, the Ministry of Education issued a circular on life skills education which also included sex education and encouraged schools to develop child abuse prevention programs.

41.3 Practices in Several Western Countries

41.3.1 United States

Although formalized sex education has been included in most U.S. public schools since the 1970s, its content varies widely across school districts and is not federally mandated or regulated. As reported in Guttmacher Institute (2016), for more than four decades, sex education has been a critically important and a contentious public health and policy issue in the United States. Rising concerns about non-marital adolescent pregnancies beginning in the 1960s and the pandemic of HIV/AIDS after 1981 have shaped the need for and acceptance of formal instruction for adolescents on life-saving topics such as contraception, condoms, and sexually transmitted infections. Debates over the content of sex education have centered primarily on the degree to which ‘safer sex’ versus abstinence until marriage should be taught. Supporters of comprehensive safer sex education contend that students should be taught age-appropriate, medically accurate information on a broad set of topics related to sexuality. Supporters of sexual abstinence until marriage education, conversely, argue in favor of restricting information about contraception and other risk-reduction approaches that are believed to legitimize and possibly inadvertently endorse out-of-wedlock sexual activity at younger ages.

In the United States today, adolescents' experiences with sex education are anything but consistent. Believe it or not, less than half of all states even require that sex education to be taught at all. Additionally, sex education is widely supported by the vast majority of people in the United States. In Planned Parenthood's most recent poll on sex education, 93% of parents support sex education to be taught in middle school, and 96% of parents support having sex education taught in high school. The majority of parents support sex education in middle school and high school that covers a wide range of topics, including sexually transmitted diseases (STDs), puberty, healthy relationships, contraception, and sexual orientation. Other national, state, and local polls on sex education have shown similarly high levels of support. Sex education is supported by various prestigious health and medical organizations, including the American Medical Association, the American Academy of Pediatrics, and the Society for Adolescent Health and Medicine. Over 150 organizations are members of the National Coalition to Support Comprehensive Sexuality Education. In the United States, sex education is often included as part of health or physical education (PE) curriculum for high school students, which is delivered by health and PE teachers. Unfortunately, according to Hall et al. (2016), until now, there remains a lack of evidence-based conceptual models on comprehensive sex education for adolescents in the United States.

Center for Disease Control and Prevention (CDC) (2014) proposed 16 critical topics that should be included in sex education as a part of the school health profile, including (1) how to create and sustain healthy and respectful relationships, (2) influence of family, peers, media, technology, and other factors on sexual risk behavior, (3) benefits of being sexually abstinent, (4) efficacy of condoms, (5) importance of using condoms consistently and correctly, (6) importance of using a condom at the same time as another form of contraception to prevent both STDs and pregnancy, (7) how to obtain condoms, (8) how to correctly use a condom, (9) communication and negotiation skills, (10) goal-setting and decision-making skills, (11) how HIV and other STDs are transmitted, (12) health consequences of HIV, other STDs and pregnancy, (13) influencing and supporting others to avoid or reduce sexual risk behaviors, (14) importance of limiting the number of sexual partners, (15) how to access valid and reliable information, products, and services related to HIV, STDs, and pregnancy, and (16) preventive care that is necessary to maintain reproductive and sexual health.

41.3.2 United Kingdom

Local authority maintained that schools in England are obliged to teach sex and relationships education (SRE) from age 11 onwards and must have regard to the government's SRE guidance. Academies and free schools, the majority in secondary education in England, do not have to follow the National Curriculum and so are not under this obligation. However, if they do decide to teach SRE, they must have regard to the guidance. Parents are free to withdraw their children from SRE if they wish

to do so. The only exceptions to this are the biological aspects of human growth and reproduction that are essential elements of National Curriculum Science. While there is no standardized curriculum for SRE in the UK, progressive developments were made in 2000 when the Department of Education and Employment published a statutory Sex and Relationship Education Guidance which provided guidelines for SRE within schools where the importance of respecting social, cultural, and sexual diversity was highlighted.

Recently, after 20 years, the UK finally unveiled new guidelines for sex education in school. The government announced that relationships and sex education (RSE) lessons in the country would finally be getting new guidelines from the Department of Education (DfE), and that three new subjects will be added to the new curriculum from September 2020. The new additions included relationships education from primary school, relationships and sex education at secondary school, and health education for all ages in which students will learn about the importance of getting enough sleep, the dangers of sexing, and how to spot anxiety in their friends. According to the guidelines, secondary school pupils would be taught about female genital mutilation (FGM) with a focus on awareness over its illegality and the availability of support networks. Students aged 11 and older should also be taught about other forms of ‘honour-based’ abuse, as well as grooming, forced marriage, and domestic abuse.

41.4 Teaching Methodology of Sex Education

Table 41.1 shows Malaysia, Singapore, and Vietnam use classroom coaching as a teaching methodology of sexual education. Through this method, teachers explain about sex education according to the syllabus provided by the Ministry of Education. In Malaysia, sex education is incorporated into various subjects like religious or moral education. This is definitely a good approach, because by learning religion and sexual education simultaneously, teenagers are exposed to a better understanding on sexual activities concerning their religious faith (Mutalip and Mohamed 2012). The United States and the United Kingdom combine classroom coaching method with role play and the use of media and visual aids. The teacher will explain in detail about the content of sex education, including doing a role play on how to use protection or about contraception. Teachers need to provide students with demonstrations,

Table 41.1 Teaching methods of sex education across countries

Country	Teaching methodology
Malaysia	Classroom coaching
Singapore	Classroom coaching, the use of media and visual aids
Vietnam	Classroom coaching
United Kingdom	Classroom coaching, role play, and the use of media and visual aids
United States	Classroom coaching, role play, and the use of media and visual aids

resources, and discuss the benefits and effects of using protection and contraceptives. For example, condoms can be used by both females and males. Besides, teachers use fear-based approach to teach children the effects of having unprotected sex. These include having unwanted or unplanned pregnancy and receiving and transmitting diseases. This method emphasizes the risks of sexually transmitted infections, diseases, and HIV. Combination of classroom coaching, role play, demonstration, and the use of media and visual aids will help students understand the topic better.

41.5 Methodology

The framework of this paper was developed by using a comprehensive review on evidence-based sex education programs in developed countries from the West (the United States, and the United Kingdom) to Southeast Asian regions (Malaysia, Singapore, and Vietnam). These countries were selected as they provide diversity in terms of their political and cultural background, the role played by the government in sex education policy making, as well as its varying approaches in the implementation of sex education. This type of data collection technique is also known as library research method. It refers to theoretical proof obtained from previous studies by other researchers. It also refers to explanations that exist in the form of documents and records, even though this category is only used occasionally (Yvonna and Guba 1985). By using this method, the research would obtain important data from books, journals, documents, manuscripts, papers, proceedings, and internet sources on information related to the researcher's study. The data or information obtained through this research method were analyzed to complete the structure of the research paper.

41.6 Findings and Discussion

The literature review on sex education among ASEAN countries found similarities between Malaysia and Vietnam. Both countries have sex education at school, but it is only covered in other subjects such as Biology, Science, Physical Education, and Islamic Studies. This is why students find the information about sexual education to be inadequate and unable to help them have in-depth understanding of sexual matters. Lack of knowledge finally leads them to social illnesses such as unwanted pregnancies, sexually transmitted infections (STIs), abortion, baby dumping, and sex abuse.

As a first step to overcome social illnesses among teenagers, ASEAN countries should make sex education a major subject in the curriculum. It is in line with United Nations policies where comprehensive sexuality education (CSE) should be provided to promote sexual and reproductive health for young people in schools from kindergarten to upper secondary or high school and CSE should be taught as a major subject. In addition, since schools are places where teenagers spend most of their

time, teachers are important key partners if CSE is to be successful. Parents want their children to learn from schools and stress the importance of having an expert to talk to their children about sexual and reproductive health. Studies have shown that CSE in schools increases knowledge and awareness among teenagers, which in turn reduce their sexual and reproductive risks (Do 2017).

In order to reduce the number of social illnesses, strong support from various parties is needed. Parents in ASEAN countries must support and involve themselves in sex education as parents in the UK and the United States do. Teaching sex education should be a shared responsibility of the school and home. At the family level, parents play an important role in shaping the key aspects of their children's sexual identity and social relationships. Parents need to know the way to better communicate with their teenagers about sex and sexuality and how to teach their teenagers about sexual and reproductive health at home. ASEAN parents should be open on sexual education and need to realize that if their teenagers have exposure to CSE, it does not mean that they will become bad or spoiled or that they will engage in social evils or social vices.

In the United States, sex education is supported by many prestigious health and medical organizations, including the American Medical Association, the American Academy of Pediatrics, and the Society for Adolescent Health and Medicine. Other governmental departments in ASEAN countries must also support sex education and do not let the Ministry of Education to solely bear the responsibility.

However, it is very important to observe the role of governments to seriously formulate and use policy to support sex education which varies considerably across the region, reflecting different traditions and approaches to governance as well as commitment to addressing these issues. A number of countries are policy-rich in that they have multiple inter-related and interlocking policies such as Cambodia, for which there is even a National HIV/AIDS Policy Inventory. It shows that very significant issues are aligned with coordination of policies. There are other national strategies that are relevant to sex education, and these may also offer multiple sources of funding. For example, Bangladesh has a national Adolescent Reproductive Health Strategy that includes effective dissemination of knowledge and information through the curriculum in secondary and higher secondary schools. India also has a National Adolescent Reproductive and Sexual Health Strategy. Cambodia, Timor-Leste, and Vietnam have national population growth or reproductive health strategies. However, these are generally more focused on the health sector and have minimal or no inclusion of education on comprehensive sex education.

It is, therefore, very clearly of critical importance that comprehensive sex education (CSE) be included in the education sector plan which provides the main action framework and, of course, budget commitment for the sector. The Bangkok Plan reported that only two countries have developed detailed medium-term education-sector strategies specifically for HIV and sex reproductive health (SRH) and they are Cambodia and Vietnam, and one of them is sector-wide and costly, which is Cambodia. Indonesia has mainstreamed HIV in its education sector plan. The country has decentralized administration and at least two provinces (Bali and Papua) include

HIV education in their provincial strategic plans. Various programs are taking place at the provincial level in line with the national policy, depending on local needs and the availability of resources (Clarke 2010).

CSE refers to education about all matters relating to sexuality and its expression. Comprehensive sexuality education covers the same topics as sex education but also includes issues such as relationships, attitudes toward sexuality, sexual roles, gender relations, and the social pressures to be sexually active, and it provides information about sexual and reproductive health services. It may also include training in communication and decision-making skills (Leung et al. 2019). As CSE is an empowerment-based rooted program with values and practices emphasizing human rights, several elements are pertinent, such as gender equality, participative learning, youth advocacy, and civic engagements, as well as cultural appropriateness regardless of Western countries or no-Western countries. That is why CSE is an empowered-based program rooted with values and practices which will be suited to the culture, tradition, and appropriateness of that country and region practices. There is a research that supports the implementation of CSE. For instance, the United Nations Population Fund (2016) reported that CSE does not lead to earlier sexual debut or risky sexual behaviors which may be a misconception held traditionally (United Nations Population Fund 2016). Rather, approximately two of three CSE programs evaluated showed reductions in risky sexual behaviors. 60% of the CSE programs yielded positive effects such as increased condom use or reduced teenage pregnancies. In addition to the effective outcomes of CSE, it is important to note that healthy sexuality plays a crucial role in a holistic positive youth development. Without healthy sexual attitudes and behaviors, adolescent development will be adversely affected. In conclusion, the observations from the countries mentioned above will be a good parameter for any country to not only learn and adopt but also adapt according to the country's framework.

41.7 Conclusions and Recommendations

Overall, to conclude, sex education is a more encompassing term but the ultimate reasoning of it is the goal. UNESCO defines that every sex education must have a primary goal for children and young people to become equipped with the knowledge, skills, and values to make responsible choices about their sexual and social relationships in a world affected by HIV disease. It is urgent that we have a long-term mechanism and sustainable education to be taught to our society starting with the correct term at a very young age. Therefore, what we are supposed to teach is comprehensive sex education (which includes scientifically accurate information about human reproductive biology, childbirth, contraception, and sexually transmitted diseases including HIV). This is important because if there is a case of sexual abuse or harassment, the child would be able to properly inform their parents where and what happened, and this will help children to navigate real-world issues that they

may face. Furthermore, education ministries should have very clear policy statements on sex education that are easily accessible and disseminated to stakeholders. Policies should be formulated in participatory process involving all stakeholders and groups, and should be accountable. They should be regularly monitored, reviewed, and revised from time to time, and the most important part is that there should be support strategic plan development. It should not be an ad hoc program, but integrated into a strategic plan. In addition, the aspect of participation is also crucial. Participation and inclusion of all stakeholders such as parents, community members, and learners is required. One of the mechanisms is to strengthen partnerships with health ministries through memoranda of understanding that specify roles and responsibilities. In addition, it must include a regular participatory review process. The process of developing policies and strategies in enhancing participation within the education sector and with partners such as NGOs and other ministries will be the core process which requires strong and continuous commitment.

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Chapter 42

Achieving Environmental Sustainability through Good Regulatory Practice (GRP)



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Abstract The study mainly focuses on reviewing and analysing the measures which Southeast Asian countries can adopt to achieve environmental sustainability. Good regulatory practice (GRP) is one of the regulatory reform mechanisms used by developed countries in achieving sustainability. Malaysia is one of the ASEAN members that has very high environmental pollution, mainly because of its industrial revolution. The government realizes this could become a major problem as a developing country and is trying to reduce it in the future. This paper provides specific reforms and initiatives that Malaysia could consider, capturing the measure progress in achieving Sustainable Development Goals (SDGs) by drawing an analytic literature and international experience. These recommendations significantly benefit the country as well as the society in managing the impact of environmental issues. The impact can be reduced by implementing the proposed framework since it is developed according to the GRP which is accepted worldwide, especially in developed countries like the United Kingdom.

Keywords ASEAN · Environment and climate · Good regulatory practice · Sustainability · SDGs

42.1 Introduction

Regulatory reforms are systems used widely to facilitate the development of states and become the national agenda that particularly benefit the whole society. These reforms are a part of the government's initiative toward achieving good regulatory practice (GRP). GRP aims to reduce the number of unnecessary regulations, requirements and to make regulations simpler and more transparent by focusing on legitimate regulatory purposes. The implementation of GRP provides various advantages

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for the country while improving the effectiveness and efficiency of administration. The concept of GRP can be used for new and existing regulations. Various tools can be considered by institutions to formulate new regulations such as National Policy on Development and Implementation of Regulations (NPDIR), State Policy on Development and Implementation of Regulations (SPDIR), Unified Public Consultation and Regulatory Impact Analysis Secretariat, whereas Modernising Business Regulation (MBR), MyCURE, Guillotine and Non-Tariff Measures (NTM) are for the purpose of reviewing the existing regulations (OECD 2019).

42.1.1 Good Regulatory Practice (GRP) in Malaysia

GRP is still a new concept to most institutions in Malaysia. The Malaysian government started implementing GRP in reviewing the existing policies in 2013 and focus more on business regulations only. Various benefits had been achieved from this initiative such as the removal of unnecessary rules, where by 29 business licences were abolished, and the reduction in compliance cost, whereby 735 business licences were re-engineered involving cost saving of RM729 million (Jayasiri, 2006). Some examples of industries that are involved in the process are medical, electric and electronic, warehousing services and construction (OECD 2019). Besides these positive impacts from the implementation of GRP in business regulations, the government is able to boost economic growth and increase the number of investors to do business in Malaysia. From this, it can be seen that the regulatory reforms is currently emphasized by the government in the area of impact to business regulations.

This study is relevant to the government policies, namely Tenth Malaysia Plan, Eleventh Malaysia Plan, Sustainable Development Goals (SDGs) and *Buku Harapan Membina Negara Memenuhi Harapan*. In the 11th Malaysia Plan 2016–2020, the regulation reforms will be accelerated to ensure that new and existing regulations as well as their administration and enforcement are aligned with good regulatory practice. It will be done by expanding the adoption of National Policy on Development and Implementation of Regulations (NPDIR) and by conducting regular regulatory reviews for ministries and agencies. This study is also in line with National Initiative 7 (Thrust 4) in the *Buku Harapan* which is to reduce regulatory burden by reviewing or repealing the number of regulations and saving the compliance cost.

The Malaysian government also raised this issue during the presentation of Mid-term Review of the Eleventh Malaysian Plan 2016–2020 in October 2018. Inadequate and uncoordinated efforts by these stakeholders to review the existing policies and legislations have contributed to ineffective planning and inability to translate national policies into action that is in line with the environmental agenda (EPU 2018).

42.2 Environmental Issues in Malaysia

The importance of achieving SDGs has been addressed many times by the government. Various international organizations such as the United Nations (UN) have reported that environmental sustainability, good health, health and well-being, and sustainable living could be potential drivers for sustainable development but are usually neglected by institutions. Sustaining the flow of these drivers is a vital requirement for sustainability. Therefore, the specific issues of the study are as follows:

Issue 1

Malaysia has a very high environmental pollution rate, mainly due to its recent industrial revolution. The government realizes this could become a major problem as a developing country, and it is trying to reduce it in the future. The current environmental issues are air pollution, industrial pollution, waste management, water pollution from raw sewage and deforestation. Besides, Malaysia has a natural hazard of flooding as well (Habtemichael 1995). Mei et al. (2016) investigated the current level of environmental awareness and behaviour among Malaysians according to the four environmental issues which are water pollution, air pollution, waste management and climate change. The findings showed that environmental awareness and behaviour are not positively correlated in this study. It shows that a strong environmental awareness does not indicate greater degree of environmental behaviour. The impact of these issues can be minimized by managing the environment properly.

Issue 2

The level of awareness and understanding among the public on environmental issues and the role of natural resources in providing ecosystem services is still low. Environmental education in schools has not been translated into habits and culture which is imperative in changing the mindset and behaviour as well as to inculcate a sustainable lifestyle amongst the younger generation. In addition, community involvement and shared responsibility are still insufficient, particularly in addressing environmental issues and cleanliness (EPU 2018).

Issue 3

Dozens of factories have been opened in Malaysia to handle waste and many of these are without operating license, use low-end technology and environmentally harmful methods of disposal (Ananthalakshmi & Chow 2018; Mei et al. 2016). Besides, there are almost 500 illegal plastic waste facilities in the state of Selangor and the plastic is not recycled properly but is dumped into landfills which results in harmful health problems for Malaysians nearby (Koh 2016).

With that, the aim of the study is to identify the existing impact of environmental regulations imposed by the local government in local areas. The government needs to revise the existing policies, rules and regulations related to the environment in order to achieve the Sustainable Development Goals (SDGs). The government will be able

to identify the weakness of existing policies after revision and some improvements are required according to practices acknowledged by the world which is GRP.

42.3 Regulatory Reforms in Australia

Australia is one of the countries that actively adopts good regulatory practice (GRP). GRP should be adopted by the countries in regulatory reforms to ensure sustainability. It is widely used in Australia in the aspect of water management reform (Tisdell et al. 2002), telecommunication reform (Wellenius and Stern 1994) and renewable energy supply (Martin and Rice 2012). Australia has been recognized as a leader in regulatory reforms by the Organization for Economic Co-operation and Development (OECD). The important aspect of reforming regulation is to improve the market and economic performance based on Australia's experiences. Thus, it is important to establish an effective system in managing regulations and identifying opportunities for reform. Three waves of regulatory reforms in Australia are to: (1) increase international competition in the 1980s, (2) increase domestic competition in the 1990s and (3) increase burden reduction initiatives of the 2000s. The regulatory reform process consists of comprehensive reviews of all structures and legislations that may restrict competitions and aims to ensure that the most efficient and effective regulatory approaches are in place (Cousins 2011).

42.3.1 *Initiatives of Regulatory Reforms*

Regulatory Impact Analysis (RIA)

The successful implementation of regulatory reform in Australia is because of the use of regulatory impact analysis (RIA). This country has been a very early adopter of RIA since 1985. Ten years later, RIA was formally accepted by the Council of Australian Government (COAG) which urged that all national standards are required to prepare regulatory impact statement (OECD 2010). The regulatory impact statement (RIS) should be included in all proposals that explain the regulatory impact on business or non-profit organizations. The basic elements of a RIS are problem, objective, options, impact analysis, consultation, conclusion and recommended option, and implementation and review (Porter 2011; World Bank Group 2016). Therefore, all regulation proposals should be included in the RIS before they can be submitted to the cabinet or presented to the decision makers. It shows that the Australian government is very serious in ensuring that all legislations are aligned with good regulatory practice (GRP), hence can increase productivity of the state. Porter (2011) stated that productivity is the priority of the Australian government by emphasizing on reducing unnecessary and poorly designed regulations.

The RIA is recognized by most developed countries as a key to improve the quality of regulatory decision making and it is widely regulated within the member countries of OECD and is dispersed to the developing countries such as European Countries, the United Kingdom and Finland (World Bank Group 2016). There is no generic definition of RIA but it can be understood as an instrument or obligation of public policy analysis in identifying the costs of regulation on certain business sectors (Fisher et al. 2007). Basically, this analysis is used to reduce the regulatory burden of a sector and that would improve the countries' competitiveness (De Francesco et al. 2012).

The benefit of implementing the impact assessment is RIA helps the regulators to decide the most efficient policy option by referring to the cost–benefit analysis as the main component in the good regulatory process. Besides, the use of RIA enables the promotion of accountability of regulators for the outcomes generated by the proposed policies. It means that the regulators or decision makers need to be more committed in evaluating the policies implemented by them (Cousins 2011; World Bank Group 2016).

42.3.2 Institutions

Australian Productivity Commission

To make successful effort towards regulatory reforms, Australian Productivity Commission is a policy advocacy body. The role of this commission is to research and advocate the benefits of regulation reforms as well as to monitor and advise on regulations and undertake benchmarking in specific sectors. The Australian Productivity Commission is an important institution in Australia in terms of regulatory reforms by providing a model to be adopted by other countries (OECD 2010).

National Competition Policy (NCP) Review Programme

This programme has been promoted by OECD to its members as a model approach. This programme is known as an effort to stock or list all the laws and jurisdictions, and the laws are then examined for potential restrictions. This approach is also used to identify and schedule the jurisdictions to be reviewed (OECD 2010).

Bank Review

The Bank Review is set as one of the reform initiatives to promote good regulations. The government has endorsed six principles of good regulatory practice and the most important changes adopted on the recommendation of the Bank Review is the analysis of RIS in the regulatory proposals. Failure to do so will cause proposals to be prevented from proceeding to the Cabinet. Besides, the Bank Review contributes to regulatory reform to sustain economic development (OECD 2010).

42.4 Regulatory Reforms in Malaysia

Good regulatory practice (GRP) is still a new concept to Malaysia and is not fully implemented in all states. Malaysia's regulatory reform journey started in the 1970s from privatization and deregulation to a systematic regulatory governance practice. The Malaysian government showed a strong commitment to improve regulatory reforms by introducing public–private partnership to enhance public service delivery and business commitment in 2007. In 2013, the government introduced the National Policy on the Development and Implementation of Regulations (NPDIR) to promote an effective, efficient and accountable regulatory process in order to achieve greater coherence among the policy objectives of the government. The NPDIR are implemented across government agencies, including states and local governments. However, RIA is not consistently carried out and is sometimes carried out after the decision to regulate or after the regulations have been developed (Hadad-Zervos 2017). RIA should be carried out during the drafting of the legislation proposal (Porter 2011) as recommended by OECD.

NPDIR is an example of good regulatory practices in Malaysia. The NPDIR requires consultation with stakeholders or known as public consultation and should be conducted online. However, the GRP requirement that includes public participation is an ad-hoc compliance which causes agencies to become unprepared. However, some agencies are taking initial steps to comply with GRP requirement (Hadad-Zervos 2017).

42.4.1 Institutions

National Development Planning Committee (NDPC)

NDPC is responsible to oversee the implementation of the National Regulatory Policy, assess the effectiveness and recommend improvement, and examine the RIS for adequacy and to make appropriate recommendations (MPC 2013).

Malaysian Productivity Corporation (MPC)

In Malaysia, Malaysian Productivity Corporation (MPC) is a responsible institution to promote good regulatory practice. MPC is responsible to NDPC to implement its functions on this policy. MPC is in charge to develop guidelines and programmes for the implementation of RIS, to provide guidance and assistance to regulators in RIA, to conduct periodic review of progress and to submit reports to NDPC (MPC 2013).

Malaysia has recorded success in business regulatory reforms in 2017. A total of 23 reforms had been undertaken by the Ministry of International Trade and Industry (MITI) through new Companies Act 2016. Malaysia had reduced regulatory burden to ensure that the laws encourage small and medium-sized enterprises (SMEs), such as Registering Property and Enforcing Contracts. Several requirements which made the process complicated in the past, especially for SMEs, have been removed. Due

to this improvement, Malaysia is now ranked 24th among 190 economies by World Bank's Doing Business Report 2018 (Damodaran 2017).

This shows that the significant contribution of a well-structured and implemented programme of regulatory reform ensures better economic performance and enhanced social welfare.

42.5 Environmental Regulatory Reforms

Environmental issues have gained increasing attention in the public arena in Australia over the last 20 or more years. At the national level, there have been debates over land and water degradation that has resulted in policy initiative. Market-based instruments for environmental management are relatively new mechanisms in both Australian and international policy contexts. However, they are increasingly being considered for the management of natural resources and the environment. Market-based instruments (MBIs) are gaining acceptance as important policy mechanisms for achieving environmental protection goals. However, their application in Australia and internationally is still in the embryonic phase.

MBIs are becoming a mainstream policy instrument in managing a wide range of environmental problems. Australia's uptake of MBIs for environmental management has so far been modest compared to other OECD countries (OECD 2010). However, recent government reforms in natural resource management policy both at federal and state level suggest that MBIs will play a greater role in the future. The governments appear to be undergoing a paradigm shift in their views on what constitutes good environmental policy, with greater emphasis being placed on the role of decentralized instruments to achieve change within industry. This new era of environmental policy presents both opportunities and challenges. Environmental awareness and the growing demands placed on businesses to be accountable for their environmental performance is an international phenomenon.

Governments have tended to respond to community demands for better environmental outcomes via regulatory responses. The core motivating force of the policy reforms is the changing attitudes of the Australian community to environmental issues together with an increasing scarcity of environmental goods and services. Among the reasons for people's changing attitude towards environmental protection is improved incomes, education and standard of living, and increasing scarcity of untouched wilderness areas, a better scientific understanding of the impact of man's disturbance on the ecosystem and more advanced methods in communicating environmental issues quickly and to a large audience.

42.6 Conclusion

Good regulatory practice (GRP) is important to be considered in regulatory reforms to prevent unwanted consequences, such as environmental degradation, and dissatisfaction among the public. One of the elements in GRP is public consultation. Public consultation is part of good governance which involves public participation in every policy from the government that affects them. The public consultation consists of meeting of the stakeholders to get feedback from them on the policy that will be introduced or amended. The consultation can be carried out in the form of meeting, interview, roundtable discussion or townhall. It is part of transparency while making certain policies. However, public participation in Malaysia is still low as most of the policies created by the government do not emphasize public participation. Therefore, a lot of changes need to be made in the public policy making process to ensure that it is consistent with GRP.

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Chapter 43

Malaysia's 14th General Election Dilemma: Candidate or Party, the Case of Sepanggar



Al Hafiz Awang and Mohammed Rahezzal Shah Abdul Karim

Abstract Analysis of democratic institutions in ASEAN countries has been and continues to be the primary interest of many political scientists. The essence to democratic institutions is the electoral system. A voluminous literature has discussed the problems and challenges of the institutional context affecting the electoral system in Southeast Asian countries. However, there are limited studies on the behaviors of voters. Malaysia has witnessed a historic moment in the 14th general election; *Barisan Nasional*, the longest-serving party was ousted by *Pakatan Harapan*. While change in government is quite common in some Southeast Asian countries, this is the first time for Malaysians to witness a democratic transition. Change in government in Malaysia prompted analysts to assess voting behavior. This study is a preliminary assessment of voter behavior in casting the ballot in the 14th general election, whether to vote based on candidate or party. It aims to study the trends among voters in the Malaysian 14th general election in the Parliamentary Constituency of Sepanggar in Sabah. This study will explain the trends of the voting behavior by using rational choice theory to understand why voters voted for the candidate and why they voted for the political party.

Keywords Malaysia 14th general election · Candidate or party · Rational choice · Sabah · Sepanggar

43.1 Introduction

In democracy, the people are offered to choose their representative by casting a ballot during the election, which is fundamental for a government to exercise its legitimate authority. In election, the most interesting question is not necessarily about who won, but rather why voters voted in that way and what are the implications received by these voters. Election is indispensable to democracy because it provides an opportunity for citizens to endorse or reject an election candidate.

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Voting is a unique democratic process which forms the bedrock of political equality and civic rights in a democratic society. Many people even risk their lives fighting for the right to vote in some countries. Voting, asking a question about how voters make up their minds to whom they vote for, is linked to how voters make up their minds and make decision in many other spheres. It is clearly seen as a choice. In the electoral system, voters decide to make their choice, whether to choose the parties or candidates on the basis of the benefits they think or are told they will derive.

The changing of government in the Southeast Asian countries is quite a common phenomenon. Most ASEAN countries have experienced the phase of changing of government. In Thailand, the government was changed from Phue Thai Party to Phalang Prachat party in 2014, while in the Philippines, the Liberal Party lost its power in becoming the ruling party to Partido Democratico Pilipino—Laban (PDP) party in 2016. In Indonesia, the previous government, i.e. Democratic Party lost to Democratic Indonesia Party in 2001. Malaysia experienced the same phenomenon for the first time in 2018. Since its independence in 1957, *Barisan Nasional* (BN) had been in power until *Pakatan Harapan* (PH) defeated it in the 14th General Election (GE14) in 2018. Various studies have been carried out to study how the changing of government influenced the change in voting behavior. In other words, the changing of government influenced the change in the voting behavior in casting the ballot (Prysbly and Carmine Scavo 1993).

Voting behavior is a set of personal electoral activities including participation in electoral campaigns, turnout at the polls, and choosing whom to vote (Bratton 2013). The study of voting behavior was conducted as early as in 1948 in a number of Western countries. Early studies of voting behavior focused on voter behavior in choosing to vote based on the party rather than the candidate (Lazarsfeld et al. 1948). The study of voting behavior began at Columbia University, where the social team organized by Paul Lazarsfeld pioneered the survey in the study of the voting behavior. Brooks et al. (2010) pointed out that the voting behavior is a study of voter behavior in casting the ballot in the election. The scenario illustrates how voters have to make a decision to cast the ballot to vote their representative. Puyok (2018) finds that the concept of voting behavior is the action taken by voters toward the political decision in the election. In this sense, voters will decide whether to vote based on the candidate that represents the party or to vote based on the party's ideology.

This study examines the voter behavior in casting the ballot in the 14th general election, that is, whether to vote based on a candidate or party in Sepanggar by employing the rational choice theory.

43.2 General Election in Malaysia

Malaysia has inherited the British Westminster system. At the federal level, Malaysia applies the bicameral legislature system consisting of two houses called the House of Representatives and the House of the Senate. The house of representatives is also known as the Parliament. Malaysia electoral system is based on the “first past the

post", otherwise known as plurality system or single member plurality (SMP). The first past the post system has been practised in Malaysia since 1954, inherited from the British system. Currently, there are about 47 countries in the world practising first past the post system. These include the United Kingdom, Canada, India, United States of America, and many of the commonwealth states (Norris 1999). This system is regarded as the most popular system among democratic countries.

The main features in the first past the post system is where the constituencies are divided into territorial of single member constituencies. During election, voters within each consistency will cast a single ballot, which is marked by an "X" for one candidate. The candidate who wins or obtains the highest number of votes in each seat will be the winner. The political party which obtains the overall majority of seats will be able to form the government (Schwartz 2012). This system is based on simple majority where the party that wins most of the seats represented by a candidate for each seat will be the winner of the election, even if by a small margin. The loser will get nothing. In other words, this is a situation where "the winner takes all" (Ides 2011). In this electoral system, within one constituency, voters are given a choice of candidates (who are competing to represent their constituencies), and whoever wins and gets the highest votes, with or without a majority, automatically wins the seat.

An election system within the democratic country provides equal rights to the people to choose their representatives in the government system (Nor and Ahmad 2013). The election in Malaysia exists at two levels, the federal and the state level. The general election is held every five years, both at the federal and state level. The election at federal level is held simultaneously in Peninsular Malaysia, Sabah, and Sarawak while the state election in Malaysia is also held simultaneously involving all state legislative assemblies in Malaysia except Sabah and Sarawak. However, in 1985, the Sabah state legislative assembly election was conducted simultaneously with the federal election.

In accordance with article 55 of Malaysia Federal Constitution 1957, The *Yang Di Pertuan Agong* (King) is the one who holds the power to dissolve the Parliament on the advice of the Prime Minister. After the Parliament is dissolved, the Election Commission (EC) will run the election.

EC functions as an independent body. The appointments to the commission are to be made by the *Agong* after consulting the Conference of Malay Rulers. EC is responsible for revising the electoral roll, delineation of the constituencies, and conducting the election. After the first federal election was held in 1955 during the constitutional formulation prior to independence 1957, The Reid Commission derived the power of registering the electors, preparing and revising the electoral rolls, delineating the constituencies and conducting elections.

Article 55(4) of the Federal Constitution stipulates the general election shall be held within 60 days of the dissolution of Parliament. Within this period, EC fixes the nomination day following the formal period of campaigning before the polling day. The campaigning period was reduced from 21 days to 14 days in 1971 and to seven days in 1986 (Sothi 1993: 39).

43.3 Voting Theory

Rational choice theory focuses on human action in social science in regard to choice and decision made by the individual or actors. A rational choice theory developed by the economic model explains how the individual responds in action to make a decision based on the rationale phenomenon that can maximize benefits to the society (Downs 1957). This theory is used widely in social science, political science, and anthropology. In rational choice theory, there are three terms that need to be distinguished: rational choice, rationality, and rationale. Rationality brings up the question of “reasonable or not”. It refers to designing the concept of rationality of the voter in casting the ballot (Kahneman 2011), while rationale is determined as the exogenous concern of ethical, moral, or other justifications made by each individual. According to Kahneman (2011), rationality is distinguished from the aspect of intelligence, especially in making preferences through choice. Making preferences depends on the choice offered to voters, which consequently reflects on the intellectual levels of voters.

Lau and Redlawsk (2006) identify voters’ decision to vote in the rational choice theory into retrospective and prospective. Retrospective refers to job performance, where voters will vote based on the past performance that has been achieved by the government to maximize benefits to the country. If voters vote for a candidate, they consider how the candidate performed his or her duties in the past, while if they cast their vote for a party, they vote by looking at how the political party has performed in the past; whereas the prospective refers to judgement. In this sense, the voters vote for the candidate by judging how they have seen the candidate possess a certain value. If they vote for a party, they view the ideology upheld by the political party as a benchmark for judgement.

Elser (2007) states that rational behavior is all about maximizing utility. Voters do cost/benefit analysis before making a choice. The individual tends to vote based on the benefits that will be gained.

Basically, the rational choice theory portrays the voter as a rational economic actor just like a consumer in a market. The voters express their choice according to the available policy options promoted to them either by the political parties or candidates. Feddersen and Sardoni (2006) highlight the voting preferences as a concept of consistency in the rationale choice theory which is focused on the behavior in analyzing the preferences among the actors in making an assumption about the other actors, after which they will decide their own. The key importance in understanding the rationale choice theory is in accordance to Down’s economics theory; the rational choice clarifies that voters and political parties are directly acting according to their own interest. Rational choice theory sees voting as an instrument. In the concept of voting in rational choice theory, voting is considered as an “end”.

Downs (1957) classifies voters’ behaviors into five. First, an individual is always able to make a decision when presented with alternatives. Secondly, voters have the ability to rank themselves and their own preferences. Thirdly, individual preferences are transitive, where the voter will prefer the alternative 1–2, and 2–3. Fourthly,

the individual will always choose the most preferred alternative, the highest ranked alternative in preference order. Lastly, the individuals will always make the same decision whenever presented with the same alternatives under the same circumstance. In the rational choice theory, voters act in rational ways to determine their vote choice; the determination includes the pros, cons, and cost/benefit. Voters will vote based on the candidate or party according to the programs and policies assuming the best service in self-interest (Andersen and Heath 2000; Catt 1996; Downs 1957).

Rational choice model promotes voters' freedom of choice, where voters are engaged in rational, purposeful behavior in casting the ballot in the elections (Oppenheimer 2008). Voters decide on how they will vote based on the expected change they will gain based on their political support.

Rational choice model concerns two types of decision making during an election: either to vote or withdraw and whom to vote for. Farber (2010) found that an individual would vote if the expected reward from voting is higher than the expected reward of not voting. As a voter who decides to participate through the ballot, the rational voter will think about the scenario in which the party might win and the possible benefit received. In addition, rational voters will vote for the candidate or party that is able to fulfill their interests (Antunes 2010). Rational choice model identifies voters as an individualistic entity.

This model claims that the individuals make their voting decision regardless of their membership to a social group or psychological attachment they have to a political party. Voters as self-interested and materialistic individuals may prioritize their personal benefits in the negotiation or collective bargaining, especially if they do not belong to any party or do not have any connection with any political parties (Bartle and Griffiths 2002; Downs 1957; Fiorina 1977). For Crewe (1983), "voters are up for grab".

Bratton et al. (2001) argue that "elections are won or lost on the economy". Rational choice stands on the perspective of voters' decision toward an economic base. In the rational choice theory, economy is said to be the "valence issue" that relies on every election. The economy comes as an argument during the election (Fossati 2014). Thus, the rational voters pay more attention to how the economy operates and is handled, through assessment of performance of the incumbent government. By assessing the incumbent government performance, rational voters will reward the incumbent government with renewal of mandate if the economic situation satisfies the voters, but they would vote for the opposition if the economy performs poorly. This circumstance is also known as reward-punishment (Butler and Stokes 1974).

There are three dimensions used to analyze the behavior of voters in the rational choice concept, which are target, time, and context of evaluation. In the target dimension, voters will assess governmental performance based on their own personal economic situation and the government's performance in the general economy. Voters may judge the government based on their individual well-being and that of their family (Keulder 2000; Lewis-Beck and Stegmaier 2000, 2008, 2009). The voters would use indicators in judging the government's economic performance, such as gross domestic product (GDP), unemployment, and inflation rates (Bratton et al.

2012). Secondly, time dimension is used by voters for evaluating the government's economic performance, either retrospectively or prospectively. Prospective views voters' choice based on the prediction of future economic performance while retrospective sees voters' choice based on past economic performance (Fiorina 1981: 26; Lewis-Beck and Stegmaier 2000: 191). The third dimension is used to analyze voting behavior called the context of evaluation. This dimension argues that voters' preferences depend on the economic and political factors which means that voters' choice is able to change at different times and in different elections (Andersen and Heath 2000).

43.4 Candidate or Party

Franklin (2004) found that voters' choice of candidate is influenced by characteristics possessed by the candidate, such as the candidate's personality. Personality of the candidate is said to have substantial influence on voters (Bouchard and Loehlin 2001; Bouchard and McGue 2003; Revell 2005). McCrae and Costa (1990) classify traits as dimensions of individual differences in tendencies to show consistent patterns of thought, feelings, and actions. Traits give an impact to voters in choosing the candidates.

Since the publication of *The American Voter*, party identification has stood out as one of the most important factors among voters to vote for the party (Evans 2004). Voting for party is commonly said to be party identification and denotes a voter's psychological attachment to a particular party. Party-based voting will create a desire in voters to vote for the party they are comfortable with. Likewise, if they have little preference for a particular party, they would vote for alternative party (Evans 2004).

The Michigan model explains how voters cast their vote based on party. In party identification, Harrop and Miller categorize three key factors in influencing votes based on party. These include attitudes to policy and how the political party presents its manifesto. Attitudes to group benefit concern the effect the party will have if voters are involved with trade unions, associations, and ethnic and religious groups. Lastly, attitudes to the candidate is about being "fair" of self-explanatory. This attitude is formed through the candidates' personalities and perceptions toward voters as an important role in pulling or turning votes away from parties. This exists when voters identify themselves with the party but may particularly dislike the candidate at a certain election and those who are not according to their identification (Fig. 43.1).

Rational choice theory argues that voters may believe the candidates or the party they vote for is the best based on their preference. In this sense, voters believe in order to cast the ballot, they should take a look at the benefits of their votes. Generally, voters will cast the ballot based on the types of benefits they can derive the most in the future, be it benefit for their local facilities, family, or self-interest. Voters will respond and support the candidates or the party they like in order to make gains in return.

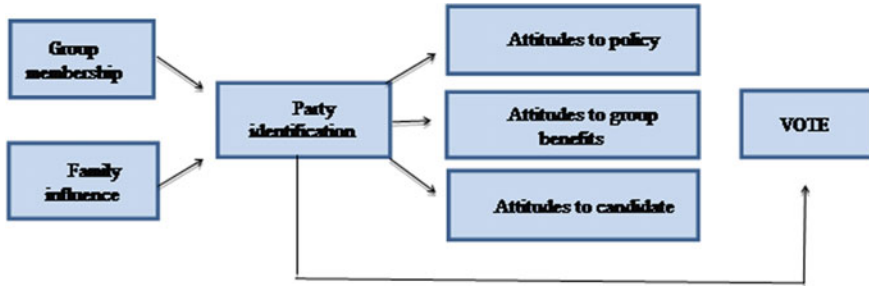


Fig. 43.1. Michigan-psychological model

43.5 Conclusion

To know if voters tend to vote for party or candidates, this paper has explored the voting trends at the 14th general election, whether voters choose the party or candidate in the election. The dilemma of voters to cast their ballot are based on the candidate or based on party. Generally, the election process is casting a ballot to decide and appoint the public office to implement the public policies. The party, ideology, and candidate evaluation are crucial for consideration when casting the ballot. At the 14th general election, voters decided to whom they were actually voting for; they looked at the candidate's personality, skills, and public image, but at the same time they were looking at the list of political parties running in the election. Rational choice models offer the reasons on why and how voters vote rationally by considering what they would receive as a return. Voters' behavior on casting the ballot was influenced by rational phenomena and self-interest acts, by relying on the pros and cons of the options available in determining their vote choice.

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Chapter 44

The Role of Institutions in the Politics of Poverty Eradication Programmes: The Case of Sabah, Malaysia



Sitti Aisyah Orlando and Firdausi Suffian

Abstract Poverty is not a recent issue for the international community. From Millennium Development Goals (MDGs) to Sustainable Development Goals (SDGs), poverty has always been the primary objective for most countries. The ASEAN community also places a central concern over the poverty issue in the region. Malaysia, as a founding member of ASEAN, has successfully reduced the poverty rate in the past four decades. In 1970, the country's poverty rate was recorded at 49%, but after the introduction of the New Economic Policy along with other poverty alleviation programmes, Malaysia managed to reduce the poverty rate to 0.4% in 2016. While efforts by the government to combat poverty is commendable, poverty alleviation performance, however, seems to be uneven across states in Malaysia, especially in Sabah, a state in East Malaysia. The state is rich with resources such as petroleum, timber, palm oil and other natural resources but, ironically, remains one of the poorest states in the country. This state received a considerable amount of financial support in poverty eradication programmes by the previous United Malays National Organisation (UMNO)-led *Barisan Nasional* federal government. Although the state government managed to reduce poverty, its performance was not impressive as compared to other states in the country. Like most social policies, poverty eradication programmes are a political process because they involve a substantial amount of state resources and are fraught with certain political interests. Hence, this paper attempts to explore the politics of poverty eradication programmes in Sabah under the *Barisan Nasional* government. This study will employ institutional theory to understand the challenges of coordinating and implementing poverty eradication programmes.

Keywords Poverty eradication programmes · Institutions · Historical institutionalism · Malaysia · Sabah

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44.1 Introduction

Poverty has long been recognised as one of the most serious and lasting problems faced by ASEAN members states. The word “poverty” or “poor” comes from the Latin word *pauper* meaning poor. Poverty is classified as a syndrome affecting people in situations characterised by malnutrition and poor health standards, low income, unemployment, unsafe housing, lack of education, inability to access modern necessities, job insecurity and a very negative outlook on life (Siwar 1988). Poverty is seen where people lack access to the basic needs, such as food, clothing and shelter (Crossman 2011). In Malaysia, the definition of poverty refers to the income level of a household (Hatta and Ali 2013).

Poverty alleviation was the most crucial aspect in the Millennium Development Goals (MDGs) when it was announced by the United Nations as a main objective of MDGs. Even though MDGs ceased in 2015, the effort to alleviate poverty is still under taken seriously nowadays, given the continuance of worldwide conflict and introduction of the Sustainable Development Goals (SDGs). Poverty has long been viewed as one of the most important and enduring problems of ASEAN countries. Recent data suggests that ASEAN countries are succeeding in combating poverty as a statistical report by ASEAN in 2017 showed ASEAN had gone beyond the MDG poverty level target for the region of 23.5% (ASEAN Statistical Report on Millennium Development Goals 2017). Malaysia is one of the members of ASEAN that has succeeded in the fight against poverty. The process of combating poverty in Malaysia is quite unique as it began with the implementation of the New Economic Policy (NEP) in 1970 which used a two-pronged strategy of overcoming poverty and, at the same time, restructuring society. By implementing the New Economic Policy and poverty alleviation programmes, Malaysia managed to lower its poverty rate. In 1970, its poverty rate recorded was 49%, which decreased to 16.5% in 1990 and further dropped to 0.4% in 2016.

Malaysia comprises 13 states. The two states located on Borneo island are Sabah and Sarawak; while the states in Peninsular Malaysia are Perlis, Kedah, Kelantan, Terengganu, Pulau Pinang, Perak, Pahang, Selangor, Negeri Sembilan, Melaka and Johor, the federal territories are Kuala Lumpur, Putrajaya and Labuan. Poverty in Malaysia is measured by Poverty Line Income (PLI) based on the three abovementioned regions in Malaysia. Over the years, specifically from 2004 to 2016, the poverty rate has seen a decline. In spite of this fact, not all individual states have enjoyed similar success in reducing poverty rates. The results show that Sabah is the poorest state in Malaysia (Table 44.1).

Poverty alleviation in Sabah has gradually declined, as seen in Table 44.1. Historically, Sabah has been ruled by various political parties since the formation of Malaysia. By year 1994, *Barisan Nasional* gained control of Sabah and this lasted for a long period of time. During the *Barisan Nasional* era, Sabah received a substantial amount of funds for its poverty alleviation programmes. The allocation of funds was tabled in the Sabah State Legislative Assembly and it is noted that the funds increased from RM 36.6 million in 2007 to RM 162.12 million in 2011, up to RM

Table 44.1 Malaysia poverty rate by state (%)

State	2002	2009	2012	2016
Perlis	6.3	6.0	1.9	0.1
Kedah	7.0	5.3	1.7	0.2
Kelantan	10.6	4.8	2.7	0.4
Terengganu	15.4	4.0	1.7	0.4
Pulau Pinang	0.3	1.2	0.6	0.1
Perak	4.9	3.5	1.5	0.2
Pahang	4.0	2.1	1.3	0.2
Selangor	1.0	0.7	0.4	0
Negeri Sembilan	1.4	0.7	0.5	0.2
Melaka	1.8	0.5	0.1	0
Johor	2.0	1.3	0.9	0
Sarawak	7.5	5.3	2.4	0.6
Sabah	23.0	19.7	8.1	2.9

Source DOSM (2016)

178.14 million in 2014, while in 2017, the funds increased drastically to RM 298.39 million (Sabah State Budget Report). Besides, Sabah is the richest Malaysian state in terms of petroleum, timber and palm oil resources. It is the biggest contributor to the national income of Malaysia, between 22.9% and 31%, through the petroleum and palm oil industries but, ironically, remains one of the most impoverished states in the country. Various poverty eradication programmes were introduced at the Sabah state level under the *Barisan Nasional* government. However, the fact remains that Sabah is still the poorest state in Malaysia.

The effort of eradicating poverty must involve proper implementation and coordination of poverty eradication programmes, which have been designed as part of social policy. Social policies involve state actors transferring state resources and this scenario becomes political, given the response adopted by the government to address the needs of citizens depends largely on who has power to devise policies.

44.2 Theoretical Framework

Poverty eradication programmes are one of the main themes in social policy. McClelland and Smyth (2010) believe that social policy is an output and a set of policies seeks the arrangement in an organisation to achieve the policy, while the researchers also highlighted the impact of said policy. Public policy-making is a political process that involves a set of political activities linked with government actions, in accordance with the legitimacy of its power (Machiavelli 2005; Lasswell 1942; Lippmann 1922). The current process for development of policies covers problem identification,

policy development and policy implementation. Policy development is concerned with asking questions on who should be involved and what should be considered in addressing the problem, while policy implementation looks at to what extent the implemented policy has met the policy objectives (Sabatier and Mazmanian 1981). Machiavelli (2005) points out that public policy is too complicated as it requires an understanding of governmental practices in the legislature in terms of solving social issues, since devising of public policy depends on a forged political identity. It was conceptualised that public policy-making is the confluence of various factors that include organisational structures, processes and culture, and also dependings on the priorities of a leader and the manner in which a particular policy will play out and reach its goal.

Policy implementation in regard to poverty eradication programmes is political because it involves various actors (policy-makers and bureaucrats) in transferring state resources to underprivileged groups. The state welfare policy, such as poverty eradication programmes, is not implemented in a straightforward manner because it is linked to political legitimacy. In patrimony-based concept, the needs of society depend on the political elites. In this sense, coordination and implementation of poverty eradication programmes will be largely influenced by the political elites, thus the institutional theory was employed in this study.

Institutions originate from the phrase “the rule of the game” introduced by North in 1991. Institutions look into putting the rules and regulations in daily actions, on how and what to do, but, seek to win the game in all forms often through bypassing a rule, leaving aside formal institutions to move to informal corruption (Rhodes and Marsh 1992). Institutional theory is classified into formal (written rules) and informal institutions (unwritten rules). Informal institutions are distinguished from formal institutions as in the former, socially shared unwritten rules are created, communicated and executed outside of officially-sanctioned channels (Helmke and Levitsky 2004). Institutions originated from the older study of politics. Plato, Aristotle, Locke, Hobes and Madison realised the importance of political institutions in shaping political behavior. Madison found that institutions are the study of how the different institutional arrangements will encourage or discourage different types of political action.

Institutional theory identifies “players” in the policy implementation. North (1990) identifies the players as an actor (political elites, politicians and policy-makers) who is involved in policy implementation and coordination through the practice of informal institutions. The actors hail from a certain group of power or have obtained high-level positions in the state government. Berger and Luckman (1991) believed that actions undertaken by the institutions depend on the different actors involved.

There are three forms of institutions, which are rational, sociological and historical. The rational choice argues that human beings act as rational individualists who are concerned about the costs and benefits associated with their course of action. While in contrast, the sociological institutionalism views human beings as fundamentally social beings. From this standpoint, humans are neither self-interested nor rational, which differs from the perspective of rational choice scholarship (March and Olsen

1989), but are satisfied when they act habitually. Sociologists argue that institutions frame the very way in which people see their world and are not just a set of rules within which they try to work. Rather than abiding by rules to maximise self-interest, sociological institutionalism posits that humans generally follow a logic of appropriateness. Historical institutions study on the aspect of history and are concerned with how the political system has emerged through its history and in the socioeconomic context (Olsen 2010). Historical institutions consist of the theory of pattern, namely path dependence, critical juncture and sequencing.

There are at least two important dimensions in historical institutionalism (Pierson 1993). First, political dimension takes place within a historical context and directly impacts decisions or events. The second reason as to why history is an important part of historical institutionalism is that actors or agents can learn from their experiences. Historical institutions observe the behavior and strategic choice, in particular, social, political and economic aspects, as well as the events that happened in the past. Proponents of historical institutionalism argue that by going in depth and understanding historical moments allows actors to learn and explain specific events that they had previously explored.

44.3 History of Poverty Eradication in Malaysia

Poverty in Malaysia became serious after the outbreak of race riots on May 13, 1969. Following the riots, conflict arose between the Malays and the Chinese. Based on historical records, in 1970, 66% of the poor were Bumiputeras, while 27% were Chinese and Indians accounted for 35%. Furthermore, the poverty rate in rural areas, at 59%, is significantly higher compared to urban areas, which recorded only 21%. At that time, those living in rural regions were mostly Malays and Bumiputeras, while an overwhelming proportion of the poor then were Malays (Abhayaratne 1996).

The race riots began a few days after the general election was held. During that time, United Malays National Organisation (UMNO), the ruling coalition, lost many of its seats in the Parliament to Chinese opposition party Democratic Action Party (DAP) which increased its number of seats in the general election. However, the result showed that UMNO had won a majority of the seats in the legislature and this caused dissatisfaction among young supporters of the Chinese opposition party and prompted them to lead a victorious parade in Kuala Lumpur. This conflict turned into a national tragedy as the number of people who were killed reached 196. Thus this led the Malaysian government to begin tracking and reporting the poverty level regularly in order to carry out proper actions to overcome the issue and restructure society (Jomo and Sundaram 2014).

The measure undertaken by the government to eradicate poverty was to introduce a policy, namely the NEP. This policy was a two-pronged strategy aimed to restructure the society through new land development in rural areas and help eradicate poverty among Malays in rural regions (Jomo and Sudaram 2014). The poverty eradication

effort continued from 1990 to 2000 through the introduction of the National Development Policy which provided an opportunity to Malays and Bumiputeras to be involved in commerce (Jaya and Abah 2005).

The results showed poverty in Malaysia declined slowly from 49.3% to 16.7% in 1990 over a span of 10 years after the NEP was implemented. The NEP focused on eliminating hardcore poverty through developing land in rural areas and at the same time providing job opportunities for people, especially in rural areas. Thompson (1970) listed the programmes launched under NEP, specifically new land development projects by statutory bodies, namely Federal Land Development Authority (FELDA) and Federal Land Consolidation and Rehabilitation Authority (FELCRA), under the rubber and oil scheme (Mohd 2012). This policy was enhanced and modified by the Malaysian government through the introduction of National Development Policy (NDP). This new policy, proposed after the success of NEP, was highlighted in the Sixth Malaysian Plan and lasted from 1990 to 1995 with the main objective of encouraging participation of Bumiputeras in commerce (Jaya and Abah 2005).

Poverty eradication is still in the interest of the government nowadays. Various poverty eradication programmes have been introduced and implemented at the federal or state level.

44.4 Poverty Eradication Programme in Sabah and Its Performance

Poverty in Malaysia is measured based on its three regions: Peninsular Malaysia, Sabah and Sarawak. PLI measures poverty according to the level of income obtained by individuals. This measure is based on minimum requirements of households concerning food, clothing and other non-food items such as rent, fuel and power. As PLI is defined by consumption, thus the determination of poverty refers to gross household income rather than expenditure. In this circumstance, households that earn a monthly income of less than half the PLI of RM 950 per month are categorised as absolute poor, while the PLI for hardcore poor stands at RM 580 in Peninsular Malaysia, RM 710 in Sabah and RM 660 in Sarawak (Economic Planning Unit, 2017). The relative poverty is classified by income disparity groups that comprise Below 40% (B40), Middle 40% (M40), and Top 20% (T20). Omar (2014) posited that the B40 group obtains a mean gross income of RM 2357 per month, the M40 earn a mean gross income of RM 5662 per month, while the T20 receives a mean gross income of RM 14,305 per month (Economic Planning Unit, 2017).

Poverty eradication programmes have been implemented by both the federal and state governments. The *Barisan Nasional*-led government launched the Government Transformation Programme (GTP) which focuses on National Key Result Areas (NKRA) in raising the standard of living among lower-income households. Under the NKRA, various poverty eradication programmes have been introduced such as *Akhiri Zaman Miskin* (1AZAM), *Bantuan Rakyat 1 Malaysia* (BR1M), *Projek Perumahan*

Rakyat Termiskin (PPRT) and *Projek Perumahan Mesra Rakyat* (PR1MA) which provide affordable housing, and *Kedai Rakyat 1 Malaysia* (KR1M) which is a chain of low-priced grocery stores. In Sabah, the Sabah Development Corridor (SDC) was announced in the Ninth Malaysian Plan with one of its main missions being the reduction of poverty levels and ensuring poverty will be eliminated by 2010 (Sabah State Budget Report, 2009). The programme is coordinated by the Sabah Ministry of Rural Development through *Skim Pembangunan Kesejahteraan Rakyat* (SPKR). Other programmes listed in the SDC as part of the fight against poverty include *Mini Estet Sejahtera* (MESEJ) and *Program Pembangunan Ekonomi Setempat* (PPES).

MESEJ was proposed at the Sabah state level in early 2007 with the objective of helping the poor sustain their income through creating job opportunities for them. This programme was established in 30 locations in Sabah with the highest poverty rate (Sabah State Budget Report, 2007). MESEJ focuses on the agricultural, micro enterprise and aquaculture sectors and received RM 36.06 million from the Sabah state government at the start of its establishment (Sabah State Budget, 2007). As of 2016, MESEJ was still carried out by the Sabah state government with an additional budget tabled in the Sabah State Legislative Assembly every year, thus allowing for an increase in MESEJ programmes each year. As of early 2017, MESEJ was being conducted in 52 locations all around Sabah (Sabah State Budget, 2017).

PPES was introduced by the Sabah state government on 18 November 2016 as part of the state budget which was tabled in the Sabah State Legislative Assembly, whereby it received a grant of RM 2.2 million to be used in its implementation (Sabah State Budget, 2017).

44.5 The Role of Institutions in Poverty Eradication Programmes in Sabah

Poverty eradication programmes are part of a social policy proposed and implemented by the government. Basically, social policy is centralised by the policy-making institutions and it is a political process that involves political activities linked to political interests (Machiavelli 2005; Lasswell 1942; Lippmann 1922). Social policy-making is monopolised by a group of state actors (political elites and bureaucrats) in transferring, allocating, coordinating and implementing poverty eradication programmes at the state level. Implementing and coordinating the programmes is quite challenging because it involves interference from the political elites who persuade and intimidate the institutions and bureaucrats.

The implementation of poverty eradication programmes is closely linked to the concept of governance, formally referred to as “getting things done by mobilising collective resources” (Schmitter 1999). The World Bank frequently quotes governance to be equivalent to the manner in which power is exercised in terms of managing economic and social resources to boost development in that particular country. However, with the existence of political elites in shaping the institutions, this will influence how

institutions govern poverty eradication programmes. In this sense, implementation of poverty eradication programmes could potentially sway away from their social objectives as they can be compromised by political interests.

The Sabah state government had spent the biggest amount on poverty eradication programmes through various programmes launched by the government during the *Barisan Nasional* era in hopes of eradicating and achieving zero poverty in Sabah. However, these programmes in Sabah are moving slowly in comparison to the other states in Malaysia as the fact remains that Sabah's poverty decline rate is slower compared to other states. Institutions play an important role in the implementation of poverty eradication programmes. These institutions have found the existence of "players" in policy implementation. The players have legitimacy in interfering with the implementation of poverty eradication programmes at the state level. The organisations involved in the implementation of said programmes face pressure from the players who continuously exhibit behaviour that can be explained as "trapping of legitimacy" to express that its actions are based on "good faith". In this sense, organisations need to stay relevant and lengthen its life cycle. However, players that possess the legitimacy act beyond the formal institutions and move into corruption since they have to cater to their own personal interests.

North (1990) says the players comprise political elites who are practising informal institutions. These actors influence the institutions to act on behalf of their power, where bureaucrats are responsible for implementing poverty eradication programmes. The behaviour of actors is constrained by implementation and coordination of poverty eradication programmes but at the same time, their behaviour will compromise the allocation of resources that are supposed to meet the objective of said programmes.

44.6 Conclusion

Even though ASEAN has managed to go beyond the poverty target in the MDGs, poverty still exists. MDGs ended in 2015, but the same objectives are reiterated in SDGs. The statistical reports in Malaysia show that the country has been able to fight poverty by introducing various poverty eradication programmes at federal and state levels. However, the facts show that poverty is still faced by the richest state in Malaysia, especially in Sabah. In the context of Malaysia, the implementation of poverty eradication programmes by state actors is largely influenced by the political elites. This scenario will create barriers in implementing these programmes since the elite group has undue influence in coordinating and implementing the said programmes.

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Chapter 45

Knowledge, Attitude and Practices of Food Safety Hazards among Street Food Handlers towards Sustainability of Food Industry



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Abstract Street food is a prominent food industry that plays an important role, and represents most of the food culture in Asia and other developing countries. Monitoring food safety hazards (that is, physical, biological and chemical) is crucial for safeguarding, ensuring safety and preserving the sustainability of prolonged business. Food handlers play a key role in ensuring food safety throughout the food supply chain and reduces an alarming rate of foodborne illness (FBI). Hence, this study aims to identify the knowledge, attitude and practices (KAP) of food safety hazard of street food in Kuala Dungun, Sura and Kuala Paka, Dungun, Terengganu. Simple random sampling method was used to select 76 participants and the data were gathered using semi-structured administrative questionnaires. Descriptive analyses were done with frequency and percentage scores and evaluated against a scale of poor (0–49%), fair (50–69%) and good (70% and above). The results revealed that the majority of responses show a good level of knowledge and attitude towards physical hazard among food handlers, while other questions on biological and chemical hazard were given fair and poor response. On the contrary, less than half of the questions answered show good practices on physical hazard, and much of the feedback shows poor and fair practices on biological and chemical hazard. Thus, government agencies, private companies, academicians and other experts should work together to increase awareness specifically on the poor aspect of KAP and work holistically towards sustainability of food safety and commercial trading of the food industry.

Keywords Food handlers · Street food · Knowledge, attitude and practices (KAP)

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45.1 Introduction

Street food (SF) industry is rising owing to the fast-paced lifestyle, and people dine in and hang out not only to quench their hunger but also to socialize. It is vital to fulfil the demand of food dwellers and lovers as well as contribute to the sustainability growth in the economy of the nation. SF means a wide variety of edible food and drinks sold and sometimes cooked in open spaces. A study by Rahman et al. (2016) shows food can be eaten straightaway or can be eaten somewhere else. The effect of suburbanization has twisted a high need of ready-to-eat food, especially among busy people with less time to eat and prepare meals at home. However, as more people prefer to buy food outside, less hygiene in food preparation and poor knowledge of personal cleanliness lead to the occurrence of food safety hazards (FSHs) that trigger foodborne illnesses (FBI) (Ghazali et al. 2012). Food safety hazard (FSH) is known as any mediator with the possibility to be a source of adversative health consequences for consumers. It can occur when food is exposed to hazardous agents, which results in adulteration of food. FSH is commonly classified as physical, biological and chemical hazard. Physical hazards ordinarily happen from poor food-handling practices that involve hard or soft foreign objects in food (e.g. glass, metal, jewellery and toothpicks). It may also inadvertently happen from contamination that can occur at any point in food preparation, which contributes to illness and injury. Biological hazards are usually connected with humans and raw products entering the food establishment that contain bacteria, viruses, parasites and fungi, while chemical hazards are toxic substances that may occur naturally or may be added during the processing of food. There are various sources of hazard from chemical contaminants (e.g. detergent, pesticides and fertilizers) (McSwane et al. 2003).

If FSH is not properly taken care of, it can be a substantial contributor to the increasing number of FBIs occurring nowadays. FBI is a problem for all societies that can happen due to consumption of contaminated food (Asiegbu et al. 2016). It is also reported that FBIs are connected to poor individual cleanliness of foodstuff handlers (Rahman et al. 2016). This is also strongly supported by Yidana and Philip (2018) whereby this phenomenon will become a global problem to public health when a food handler is not concerned about hygiene while preparing food. A food handler is a person who works in a food industry and handles foodstuff or surfaces that are expected to come into contact with food such as tableware or dishes (George et al. 2018). They must be knowledgeable on safety issues in handling food, followed by good attitude and practices that must continuously apply in their work (Adetunji et al. 2018). This is also supported by George et al. (2018), as nearly 30% of cases may additionally be triggered by way of bad food management and contaminated food prepared in food business premises. In addition, SF are ordinarily exposed to the hazard of microbial contagion due to sales nature and dissatisfaction in regard to cleanliness rules by merchants (Ohin et al. 2018).

This is in agreement that FBIs ordinarily happen in countries worldwide, including Asia and Europe due to poor food hygiene practices, weak implementation of food hygiene laws, deficient supervision and checking, and absence of nourishment

cleanliness instruction among wholesalers (Yahaya et al. 2018). From a study by the Ministry of Health (MOH) (as cited in Lee et al. 2017), FBIs in scholarly organizations contribute to 43% of the aggregate foodborne harming occurrences in Malaysia. Street food selling activities in most developing countries like Malaysia are mostly beyond the regulations and protection of the government and it can be one of the factors which predisposes to the public health risks (Alimi 2016). This is substantiated with data from the Department Statistics of Malaysia (2016) that shows food poisoning records the highest incidence rate (IR) of 47.3 cases per 100,000 population in Malaysia. To ensure food handlers practise proper methods of managing food and personal hygiene, it is essential for them to understand the knowledge about factors of foodborne diseases, agent transmission, attitude and practices in their job. Former researches have evaluated the significance of knowledge, attitude and practices (KAP) amongst food handlers. The understanding of important cleanliness measures by a food handler in the KAP study is applicable. Proper management by all stakeholders (food vendors, farmers, government, food and health professionals, and consumers) is needed to ensure a safer and healthier society. In the past, MOH has established training programmes since 1996 to increase the knowledge of food hygiene (Salleh et al. 2017). Training programmes are also provided to help them implement hygiene as a routine on a daily basis (Abdul-Mutalib et al. 2015). Besides that, the government is also implementing strict rules to ensure food handlers prioritize cleanliness of their working area. Hence it is hoped that the result of this study would theoretically be a stepping-stone for improvement and enforcement of law, controlling of quality and safety of street food in Dungun, Terengganu.

45.2 Research Methodology

45.2.1 Research Design and Sampling Method

This is a cross-sectional study conducted among food handlers of street food in Dungun, Terengganu, who own a legal license as inclusion criteria. This area has been chosen because there are many street food mushrooming due to the development of Dungun district nowadays. It can be seen with the development of higher learning institutions, schools and new organizations. This is important as one of the precautions in avoiding foodborne illness, especially to food service areas in institutions and to the public. According to the data collected from Majlis Pemandaran Dungun (MPD), 91 food handlers have registered their business with legal license in Dungun. Sample size was calculated based on the table of determining sample size by Krejcie and Morgan (1970). In this current study, 76 respondents were taken as the sample size from the total population of 91 food handlers who own the license. They were chosen based on several categories of gender, age and type of food they sold. A simple random sampling was used, whereby the population had an equivalent and known chance of being chosen for the sample (Kumar et al. 2013). Permission

was also requested from all participants in this study on a voluntary basis before the survey was initiated.

45.2.2 Data Collection Procedure and Data Analysis

Questionnaire was designed as a self-administered tool, and data were also collected through face-to-face interview with food handlers. The questionnaire was developed by adopting and adapting from previous research literature (Akabanda et al. 2017; Abdullah et al. 2015; Prabhusaran et al. 2018; Iwu et al. 2017; Samapundo et al. 2016). It was also based on information from Food Hygiene Regulations 2009, which was derived from Food Safety and Quality Unit (FSQ), from the MOH website (2019) Malaysia. The questionnaire was prepared in Bahasa Malaysia as the majority of the respondents use Bahasa Malaysia as their first language. The questionnaire was structured into four sections, A, B, C and D. Section A focuses on sociodemographic profile of the respondents (e.g. nationality, race, age, gender, monthly income, educational level, experience and training programme), while the other sections, B, C and D, contain 36 questions that consist of equal distribution of 12 questions of each section for “knowledge”, “attitude” and “practice”. Each section has been structured evenly by three categories on FSH, which are physical, biological and chemical hazards (Alimi 2016). The final set of questions were randomly arranged in a table to avoid bias during data collection. The Likert scale used in this questionnaire was inspired from a study by Abdullah et al. (2015).

Section B on knowledge of food handlers requires respondents to specify their level of agreement with the statements through a three-point Likert scale, where “1 = True”, “2 = Not sure” and “3 = False”. In Section C on attitude, respondents were required to indicate their answer through a three-point Likert scale ranging from “1 = Agree”, “2 = Not sure” and “3 = Not Agree”. Section D are questions related to practice and are measured through a three-point Likert scale where respondents need to give their answer from “1 = Always”, “2 = Sometime” and “3 = Never”. This KAP study was evaluated against a scale within the range of 49% and below as poor, between 50 and 69% as fair, and 70% or higher as good (Iwu et al. 2017). Before disseminating the actual questionnaire, piloting was done to confirm that the questions used in the questionnaire were correct, placed in the right sequence and conveyed similar meaning to all the respondents. This was to confirm all respondents clearly understand the questionnaire and whether the additional questions are needed or some questions should be deleted (Kumar et al. 2013). Findings from the pilot study revealed that the results for Cronbach’s alpha for each section of the questionnaire were within the range of 0.64–0.70. These values are acceptable in research (Bowling 2002). Questionnaires were distributed randomly to all the respondents with brief explanation about the confidentiality of the data collected, the purpose of the study and some guidelines on answering the questionnaire were also offered. It took about 10–20 min to complete the questionnaire. SPSS (Statistical Package for Social Science) version 22 was used to analyse the data using descriptive analysis

(frequency and percentage scores) for every section. Results were discussed on the classification of food safety hazard, i.e., physical, chemical and biological hazards (Alimi 2016).

45.3 Results and Discussion

45.3.1 Sociodemographic Characteristics of the Respondents

Table 45.1 shows the sociodemographic profile of the respondents. All of them

Table 45.1 Sociodemographic characteristics of the respondents

Characteristics		Total (n = 76)	
		Frequency (n)	Percentage (%)
Nationality	Malaysian	76	100
Race	Malay	76	100
Gender	Males	41	53.9
	Females	35	46.1
Age (years old)	18–28	38	50.0
	29–38	22	28.9
	39–48	9	11.8
	49–58	6	7.9
	Above 58	1	1.3
Income range (RM)	Below 500	17	22.4
	500–999	43	44.7
	1000–1499	17	22.4
	1500–1999	6	7.9
	2000–3999	2	2.6
Education level	No formal education	4	5.3
	Primary school/secondary school	58	76.3
	Diploma/degree	14	18.4
	Master/Ph.D.	0	0
Working experience	Yes	57	75
	No	19	25
Attend food handling training	Yes	43	56.6
	No	33	43.4
Typhoid injection	Yes	62	81.6
	No	14	18.4

were Malaysians, and out of 76 respondents 53.9% were males, while 46.1% were females. Half the respondents were between 18 and 24 years old (50%), while only one respondent was above 58 years. The rest were between 29 and 58 years old. Nearly half of the respondents (44.7%) had monthly income ranging between RM500 and RM999, followed by 22.4% having income below RM500 and between RM1000 and RM1499, while the rest earned between RM1500–RM1999 (7.9%) and RM2000–RM3999 (2.6%). For education level, three-fourths of the participants obtained education at primary and secondary level (76.3%). Respondents with a diploma or degree were 18.4%, and 5.3% had no formal education. None of the respondents had a Master's or PhD qualification. The majority of food handlers had experience in the food business with a percentage of 75%, and the remaining 25% did not have any experience working in the food business. Furthermore, 56.6% of the overall food handlers had previously attended food-handling training, while 43.4% of them had never attended the course. This shows that almost half of the respondents have taken the importance of having food-handling training lightly. Subsequently, 18.4% of food handlers have not received typhoid injection. This is something that should be considered, as it is compulsory for all food handlers to have this vaccine before handling food. This is a serious issue and action needs to be taken to ensure that they fulfil the requirement to become good and responsible food handlers. They need to be vaccinated against typhoid since this disease is endemic in Malaysia.

45.3.2 Knowledge among Food Handlers

Table 45.2 shows the results for knowledge of food handlers on FSH. The food handlers were seen to have good knowledge whereby 72–93.4% of the respondents provided correct answers for half of the 12 questions. More correct answers were on physical hazard, where most participants had good knowledge about the use of kitchen caps, hygiene masks, food-handling gloves and adequate clothing that can reduce the risk of food contamination. This was followed by an understanding that the use of separate towels at work is important to avoid food contamination and unclean surroundings, such as smoke, roadside dust and food waste. This finding is supported by Abdullah et al. (2015), who stated that food handlers at Putrajaya food courts clean their workplace before starting work, involving all participants (100%). They also use separate towels in cleaning up places and equipment (92.1%) and separate different kitchen utensils in preparing raw and cooked food (86.8%). However, this result is in disagreement with Pang and Toh (as cited in Alimi 2016), who said that vendors in Malaysia regarded wearing complete attire to be awkward and time wasting.

Nevertheless, 50–69% of the respondents correctly responded to three questions, which makes them to have fair knowledge on biological and chemical hazards. However, they were still unsure that putting raw and ready-to-eat food together at the same

Table 45.2 Respondents' knowledge

	Items	Percent (%)		
		Correct	Not sure	Wrong
B1	The use of cap, masks, protective gloves and adequate clothing can reduce the risk of food contamination	93.4	6.6	0
B7	Unmanaged maintenance of food place contributes to the presence of cockroaches, flies and rats (LILATI)	86.8	7.9	5.3
B4	The use of separate towels at work is important to reduce food contamination	85.5	10.5	4.0
B10	Food poisoning can be caused by pesticides from unwashed vegetables	80.3	18.4	1.3
B3	Unclean surroundings such as smoke, roadside dust, and food waste are contributors to food poisoning	73.7	25.0	1.3
B11	Cigarette smoke has the potential to pollute food	72.4	21.0	6.6
B2	Putting raw and ready-to-eat food together at the same place can increase contamination	69.7	29.0	1.3
B12	Storage of covered detergents with other covered dry food items may cause food poisoning	52.6	31.6	15.8
B8	It is very risky to eat leftover cooked food kept at room temperature for more than six hours even though it is covered	50.0	46.1	3.9
B9	Drinking bottles/cans placed in ice cubes can cause food poisoning	43.4	29.0	27.6
B6	The incorrect method for thawing frozen meat is to keep it overnight at room temperature	42.1	39.5	18.4
B5	The unsafe temperature of cooked food is 5–63 °C	23.7	72.4	3.9

place can increase contamination, and storage of covered detergents with other covered dry food items may cause food poisoning. They were also not clear of the risk of eating leftover cooked food, which was kept at room temperature for more than six hours even though it was covered. Unpleasantly, there were only 23–43% of the respondents that had correctly answered three questions while the rest were not confident regarding unsafe temperature of cooked food which is 5–63 °C. They were also not sure the right method of thawing frozen meat and also whether drinking bottles/cans placed in ice cubes can cause food poisoning. This showed that they had poor knowledge on biological and chemical hazards. Lack of knowledge on this biological and chemical hazards may be crucial and can cause cross-contamination of microorganism that can lead to FBI.

This was supported by poor knowledge of hygiene and practices in food service establishments which can result in outbreaks of foodborne illnesses, whereas Muyanja et al. (as cited in Alimi 2016) reported that the longer cooked food exposed for more than four hours can be one of the factors contributing to food borne illness

through multiplication of microorganisms during the temperature danger zone from 5 to 60 °C (United States Department of Agriculture (USDA) 2017). This finding corroborates with the study of Akabanda et al. (2017) that time and temperature abuse to have effect on food safety. World Health Organization (2017) has developed five main keys to safe food, which includes using safe water and raw materials, keeping it clean, cooking thoroughly, separating raw and cooked food, and keeping food at safe temperatures. According to Tomaszewska et al. (2018), knowledge regarding storage of food at room temperature in Poland showed 71% correct responses but it was slightly different in Thailand where only 58% of respondents had this knowledge. To keep cooked food safe, some of the food handlers at Kuala Pilah, Negeri Sembilan use water bath to keep the food hot and to reduce reproduction of harmful microorganisms. However, there were still other food handlers who exposed food on shelves or tables for a long period of time (Abdul-Mutalib et al. 2012). This action will lead to food contamination and allows the growth of microorganisms.

45.3.3 *Attitude among Food Handlers*

Table 45.3 shows that nine out of 12 questions for attitude of food handlers were positively answered (agreed) by 81.6–96.1% of the respondents. This shows that they have good attitude and most of the correct answers were on physical hazard, whereby most of them believe that practising hygienic ethics (e.g. using kitchen caps and wearing closed shoes) can reduce the possibility of food contamination. Similar response was given on the statement that food handlers should clean the work area before commencing to work, and one cleaning cloth cannot be used for many places and equipment. This finding is similar to a study in Negeri Sembilan, Malaysia, concerning food cleanliness, whereby most of the food vendors were found to have good attitude on most aspects on cleaning the operational area, hand cleanliness and food (Abdul-Mutalib et al. 2012). This has confirmed that the association with positive and good attitudes of food handlers towards the enforcement of food sanitary plan is strongly useful in controlling FBI (Akabanda et al. 2017).

Unfortunately, for three of the questions in this study, the respondents showed poor attitude where only 34.2–48.9% agreed to the questions asked. They were still not sure that defrosted foods should not be refrozen and placing bottles or cans in ice causes cross-contamination to the ice cubes served to customers. They were also unsure that cleaning products cannot be stored together with cans and/or jars of food, even if all of them are covered. All these are on biological and chemical food safety hazards that have potential towards FBIs if less precaution is observed. These results are consistent with the fact that refrozen completely thawed food can increase severe health dangers as the method may spoil the food and cause more rapid progression of contaminating bacteria. It is important to understand that the growth of bacteria only slows down during freezing and freezing does not kill pathogens as stated by Julie (as cited in Akabanda et al. 2017). In addition to the attitude towards placing bottles or cans in ice cubes which is a practice among street food handlers, it can

Table 45.3 Respondents' attitude

	Items	Percent (%)		
		Agree	Not sure	Not agree
C1	Food handlers should comply with a complete set of hygiene ethics such as wearing aprons, hats, masks, gloves and covered shoes	96.1	1.3	2.6
C3	Food handlers should clean the work area before commencing work	94.7	2.6	2.7
C4	One cleaning cloth cannot be used for many places and equipment	94.7	2.6	2.7
C5	One of my job responsibilities is to handle food safely	92.1	7.9	0
C10	Insect repellents cannot be used to eliminate insects during food preparation	90.8	6.6	2.6
C11	Smoking during food handling is wrong	89.5	5.3	5.2
C7	Hands with abrasions or cuts should be covered with gloves	88.2	10.5	1.3
C8	Unsold food cannot be reheated to be sold the next day	82.9	13.2	3.9
C2	In preparing raw and cooked food, different kitchen utensils must be used	81.6	13.2	5.2
C12	Cleaning products cannot be stored together with cans and/or jars of food, even if all of them are covered	48.9	31.6	19.5
C6	Food that has been defrosted should never be refrozen	35.5	43.4	21.1
C9	Putting some bottle/can drink inside ice cube box can contaminate the ice to serve to customers	34.2	42.1	23.7

cause cross-contamination to ice cubes served to customers as the hands of food handlers are more exposed as a vector and are unhygienic.

This is in accordance with George et al. (2018) where nearly 30% of cases may be triggered by improper method of food management and filthy food prepared in food business premises. The study by Ab Karim et al. (2017) also found that two out of 11 food handlers were detected positive of Salmonella. Therefore, under the Malaysia Food Act 1983, all food trainers are required to attend a course by the Malaysian government on how to handle food safely and be immunized against typhoid since this disease is widespread in Malaysia (Lee et al. 2017). In addition, Alimi (2016) states that major adulterated food at vending sites had cross-contamination effect during exposure cutting and chopping. They were also mindful of the fact that kitchen utensils must be separated when preparing raw and cooked food. Another study by Lee et al. (2017) reported that food handlers in Kuala Lumpur had a fair level of KAP based on microbiological hand cleanliness and KAP study among them. This section has attempted to provide a brief summary that the occurrence of FBIs

is affected by the attitude of food handlers. Thus, it affirms connections between good behaviors, attitudes and education of food handlers in sustaining safety of food handling (Akabanda et al. 2017).

45.3.4 Practices among Food Handlers

Surprisingly, even though respondents had the most positive answers for good knowledge and good attitude. Table 45.4 shows that this was not reflected in the practices among food handlers. It can be seen that less than half of the questions (5 questions only, out of 12) showed good practice by 80.3–97.4% of the respondents. This was more on physical hazards, whereby food handlers always clean the workplace before they start work, use separate towels to clean up many places and equipment and use different kitchen utensils for different chores such as preparing raw or cooked food. In sequence, the respondents showed fair practices on five questions, whereby 60.5–69.7% of them did not smoke while preparing food, did not use insecticide spray to kill insects or pests while preparing food and did not store closed detergents with

Table 45.4 Respondents' practices

	Items	Percent (%)		
		Always	Sometimes	Never
D3	I clean the work area before I start working	97.4	2.6	0
D5	I practise safe food handling because it is important and part of my job responsibilities	93.4	6.6	0
D4	I use separate towels to clean up many places and equipment	92.1	3.9	4.0
D2	I use different kitchen utensils for different chores, such as preparing raw or cooked food	86.8	11.8	1.4
D7	I do not touch food h if I have a wounded hand but I would wear a hand glove	80.3	5.3	14.5
D1	I wear enough hats, masks and clothing to avoid the risk of eating contamination	69.7	30.3	0
D11	I do not smoke while preparing food	68.4	7.9	23.7
D10	I do not use insecticide sprayst to kill insects/ pests while preparing food	65.8	10.5	23.7
D8	I do not reheat unused/residual food for resale the next day	64.5	10.5	25.0
D12	I do not store closed detergents with other dry food items that are also closed	60.5	13.2	26.3
D6	I do not refreeze food that has been defrosted	48.7	28.9	22.4
D9	I do not use the same place to store ice cubes with bottles/cans	48.7	26.3	25.0

other dry food items that were also closed. Regrettably, the response on two questions showed poor practice, where only 48.7% of respondents answered they always did not refreeze food that had been defrosted and did not use the same place to store ice cubes with bottles/cans, while the rest were still unsure whether they practised or did not practise these correctly. Most of fair and poor answers were on biological and chemical hazards, where these hazards are crucial in preventing food contamination. Similarly, George et al. (2018) testified that 55.3% of food handlers in the south of Karnataka had lower practices of food hygiene. Likewise, food handlers in the north of Kuching, Sarawak were also stated to have poor practice which only scored 16.9% from the total respondents studied (Rahman et al. 2016). Inappropriate performance throughout food management and storage can favour situations that allow the spread of disease-causing organisms such as viruses, bacteria and other foodborne pathogens. With reference to Prabhusaran et al. (2018), food handlers who fail to practise excellent hygiene are responsible for the spread of infectious gastrointestinal pathogens. This can lead to mass infections.

Thus, there is a good association between food cleanliness practices towards food safety knowledge and personal hygiene (Ismail et al. 2016). In contrast, according to Al-Shabib et al. (2015), one of the studies conducted in Saudi Arabia exhibited that most of the food handlers practised washing their hands after coughing, sneezing and smoking. They also preserved safe practices by wearing complete outfits and cap during work. Nonetheless, according to Ismail et al. (2016), the KAP level of food safety among mobile food vendors in Shah Alam, Selangor had the strongest influence on food hygiene practices. A few of them were aware of food safety but unsuccessfully implemented food cleanliness practices. Another study stated that food handlers had fair knowledge, decent attitude and self-reported practices. However, they showed poor routine in practising food management safety, especially in hand cleanliness evaluation. Seaman and Eves (as cited in Prabhusaran et al. 2018) suggested that continuous education, groundwork and strict supervision are important components in transmitting knowledge into behaviour.

45.4 Conclusion

The results revealed that most of the responses showed good level of knowledge and attitude towards physical hazard, but other questions on biological and chemical hazard, were given fair and poor responses by food handlers. On the contrary, less than half of the questions answered showed good practices on physical hazard, and most of the feedback showed poor and fair practices related to biological and chemical hazards. This may help to focus and pinpoint the fair and poor results of food safety hazards for improvement in the future. However, a holistic approach will also need to be applied that may enhance good KAP among food handlers in avoiding any FBIs in running their business. This concurrently may shed some light in sustaining the SF business in future as well as increase economic growth in the food industry and environmental safety. Therefore, training and education are vital for maintaining

sanitation facilities. Hence, the government should also provide a comprehensive formal training programme, besides the currently offered food-handling courses. This is to ensure that food handlers know the importance of application of their knowledge into practice. The authorities also need to enforce law and penalties especially to those who do not exercise good hygiene practices with food. From that, caution would be higher, attention be more focused and FBI cases can be reduced and prevented. Thus, the authorities such as government agencies, private companies, academicians and other experts should work hand-in-hand to increase awareness of KAP and work holistically in sustaining the commercialization of the food industry.

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Chapter 46

The Level of Payment Mode and Advertising on Consumer Buying Behaviour among Lecturers at Public Higher Learning Institutions in Perlis, Malaysia



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Abstract The recent development of a global telecommunication technology has provided a new mechanism for companies to promote their products and services. This modern electronic advertising concept is commercially known as mobile advertising. Despite the high potential of online shopping in Malaysia, there is still a lack of understanding concerning the subject matter and its potential impact on online shopping. A rational understanding is essential to ensure the effective use of this medium in the future. This study aims to examine the relationship between payment mode and advertising. The growing use of the Internet in Malaysia provides a developing prospect for electronic marketers. The paper argues that when electronic dealers are aware of the factors affecting online buyers behaviour in Malaysia, it could develop their marketing strategies to transform potential customers into active ones by retaining existent online customers. A total of 254 questionnaires were distributed among lecturers of public higher learning institutions (PHLI) in Perlis, Malaysia. This paper is part of a more extensive study and focuses on factors, which online Malaysian buyers keep in mind while shopping online. It helps to identify the factors associated with the consumer buying behaviour of online shopping store among lecturers of public higher learning institutions (PHLI) in Perlis, Malaysia. This research reveals that payment mode and advertising are the two dominant factors, which influence consumer behaviour of online shopping. The findings suggest that consumer buying behaviour is positive in all independent variables which consist of payment mode and advertising.

Keywords Consumer · Buying behaviour · Payment · Mode · Advertising

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46.1 Introduction

E-commerce has grown potentially in recent years where many successful retailers are seeking global penetration and expansion of their business. It has become popular because of quick access and faster ways to expand business in a low-cost manner. Besides that, it also provides opportunities for global retailers to build their brands and to learn more about the consumers or to invest a company or store in particular countries before expanding their business. Thus, the government has set up 1Malaysia Internet Centre, a mini-community broadband Centre, 1Malaysia community broadband library and 1Malaysia wireless village, both in West and East Malaysia, in order to promote E-commerce in the country.

According to He et al. (2010), electronic payments refer to the parties in electronic transactions such as consumers, manufacturers and financial institutions. It includes the taking of electronic equipment and various types of trading cards as a medium, computer technology and communication technology as a means and issuing payment instructions directly or indirectly through the network to achieve currency payment and transfer of funds. Aruna and William (2015) stated that payment mode becomes an issue of online shopping when payment information is sent to an online merchant. Then, the merchant is able to keep the payment information such as the last four digits of credit card, cardholder name and credit card number. However, what often occurs on the Internet today is a fraud—fraud by hackers, fraud merchants and data thieves who place attacks on networks and personal computers to corrupt and steal information (Sakharova, 2012).

According to Delafrooz et al. (2010), advertising serves some essential purposes. It promotes competition among producers of products and services, keeps prices low through the development of mass markets, encourages store owners to stock a variety of items, supports free expression by funding media sources and spurs invention. In theory, access to all available information on a given product should promote all of these ends and allow consumers to make the most intelligent product purchase decisions; while in practice, no one takes the time to gather many facts. The amount of information needed to make knowledgeable product purchase depends on such considerations as the cost of product and the difficulty of obtaining further data.

Apart from that, according to Perea y Monsuwé et al. (2004), the comparison is related to online shopping. Customers of online shopping will compare the price, promotion and services of the products or services that consumers intend to shop from the online store. They do a comparison of online shopping behaviour in order to get the most out of their money. Customers would buy something if it is cheap. Moreover, they want to compare items while shopping to see which is the best or has the lowest price by comparing prices and the quality of competing merchandise.

Consumer behaviour is a comparison between traditional way of shopping and online shopping. The comparison has shown that shopping online is more convenient to make purchases compared to traditional means of shopping. Shopping tools

that provide side-by-side product comparison opportunities are offered on many e-commerce websites. They will compare the quality of brands to determine the better one (Kim and Kim 2005).

Consumers become more dissatisfied with services when their propensity to complain to e-vendors increases (Voorhees and Brady 2005). Research concerning complaint/repurchase behaviours has two significant approaches in terms of social exchange and technology use. The possible reasons for consumer complaints about online services may not be fully explained in terms of these two factors. Hence, complaint intentions towards e-vendors should be understood in terms of a combination of these three factors: social exchange, technology use and trust. Trust belief is argued to be an essential determinant of the consumer's willingness to transact with e-vendors and has been identified to be directly linked to customer satisfaction in the online context. This concept is also evident in e-commerce contexts in the way and manner it results in behavioural intentions (Gefen et al. 2003).

46.2 Literature Review

46.2.1 Consumer Buying Behaviour

Consumer buying behaviour involves studying individuals, groups or organisations as well as how to use, select and dispose of products, services, experiences or ideas to satisfy customer needs and wants. It is also concerned with the social and economic impacts that purchasing and consumption behaviour have on both the consumer and wider society. Characteristics of individual consumers such as demographics, personality lifestyles and behavioural variables such as usage rates, occasion, loyalty, brand advocacy, willingness to provide referrals in an attempt to understand people's wants and consumption are all investigated in formal studies of consumer behaviour. The study of consumer behaviour also investigates the influences on the consumer from groups such as family, friends, sports, reference groups and society in general (Solomon et al. 2012).

The study by Delafrooz et al. (2010) tried to find out the factors influencing students' attitudes towards online shopping in Malaysia. The multiple regression analysis demonstrated the most significant determinants of consumer attitudes towards online shopping. The results indicated that utilitarian orientation, convenience, price and broader selection influenced consumers' attitudes towards online shopping. Therefore, e-retailers should emphasise a more user-friendly function to provide utilitarian customers with a way to find what they need efficiently.

The study of consumer behaviour is concerned with all aspects of purchasing behaviour from purchase activities to post-purchase consumption and evaluation activities. It is also related with all persons involved, either directly or indirectly, in purchasing decisions and consumption activities including brand influencers and

opinion leaders. Research has shown that consumer behaviour is difficult to predict, even by experts in the field.

Consumer satisfaction has been the focus of investigation in only three articles. It can be defined as the extent to which consumers and the perceptions of online shopping experience confirm their expectations. Most consumers form expectations of the product, vendor, service and quality of the website that they patronise before engaging in online shopping activities. These expectations influence their attitudes and intentions to shop at a specific online store, and consequently, their decision-making processes and purchasing behaviour are also impacted. If expectations are met, customers would achieve a high degree of satisfaction, which influences their online shopping attitudes, intentions, decisions and purchasing activity positively. In contrast, dissatisfaction is negatively associated with these four variables (Ho and Wu 1999).

According to Guarracino et al. (2011), Internet shopping for businesses and consumers is being accepted as an alternative shopping mode rather than visiting the stores. However, convincing consumers to shop online is still a challenging task for web retailers in Malaysia. The growth of Internet technology in Malaysia has enormous potential as it reduces the costs of products and service delivery and extends geographical boundaries in bringing buyers and sellers together (Salehi 2012).

Payment Mode. Regarding payment, online shoppers often use credit cards, cash and cheques to make payment. A payment system that utilises the Internet to gain access to the banking system helps buyers to make purchases through online retailers. It also gives a retailer who has Internet access the opportunity to make an online shopping transaction (Holloway and Anderson 2009).

Previous studies have addressed the subject of how payment modes influence consumer spending behaviour (Chatterjee et al. 2013), which means that how the payments can be done also affect online transactions. According to Karjaluoto (2002), the results of his study suggest that the primary factors affecting the choice of a mode of bill payment are speed, security and trustworthiness, easy-to-use, and price of the payment. It means that most online shoppers want the speediest way to pay for their purchased goods. By using the Internet, consumers can easily purchase their products and payment can be made immediately without worrying about the security of online transactions.

Advertising. Advertising is a means of communication with the users of a product or service. Advertising messages must be paid for by those who send them and is intended to inform or influence people who receive them. As an integral part of marketing, advertisements are public notices designed to inform and motivate. Their objective is to change the thinking pattern of the recipient so that he or she is persuaded to take action desired by the advertisers. Advertisements are always present, though people may not be aware of them. In today's world, advertising uses every possible media to get its message through. It does this via television, print newspaper, magazines, journals, radio, Internet, direct selling, events, posters and visuals. A company needs to advertise itself and its products by hiring an advertising agency for more people to know them (Bauer et al. 2005).

Advertising is done to create likeness and attraction and influence buying behaviour in a positive way. Attitude towards the ads, as a thought-provoking theory of advertising, is often used to understand buying behaviour. Effective advertisement influences the attitude towards the brand and finally leads to consumer purchase behaviour (Goldsmith and Lafferty 2002). Ideally, consumer-buying behaviour is the product purchase decision (Adelaar et al. 2003). Advertisers are using different techniques to convey commercial messages to create a purchase decision effectively.

The major aim of advertising is to impact buying behaviour. However, this impact about brand is changed or strengthened frequently in people's memories. Memories about the brand consist of associations that are related to brand name in the consumer's mind. These brand cognitions influence consideration, evaluation, and finally, purchases (Romaniuk and Sharp 2003). The principal aim of consumer behaviour analysis is to explain why consumers act in particular ways under certain circumstances. It tries to determine the factors that influence consumer behaviour, especially the economic, social and psychological aspects (Ayanwale et al. 2005).

Advertisers' primary objective is to reach prospective consumers and influence their awareness, attitudes and buying behaviour. They spend a lot of money to keep individuals (markets) interested in their products. To succeed, they need to understand what makes potential customers behave the way they do. The advertisers' goals are to get enough relevant market data to develop accurate profiles of buyers-to-find the common group (and symbols) for communications. It involves the study of consumer behaviour, mental and emotional processes and the physical activities of people who purchase and use goods and services to satisfy particular needs and wants (Arens et al. 1996). Advertising is a non-personal and paid form where an identified sponsor to persuade or influence behaviour promotes ideas, concepts, products or services, and information, through media (visual, verbal and text) (Ayanwale et al. 2005).

46.3 Research Methodology

The data collection mode for this study took a quantitative approach. A survey questionnaire was developed to validate the conceptual model. On the basis of proposed research hypotheses, a method suitable for collecting data from the lecturers at Universiti Teknologi Mara (UiTM), Politeknik Tuanku Syed Sirajuddin (PTSS) and Kolej Komuniti, Perlis was developed. The population consisted of lecturers from Politeknik Tuanku Syed Sirajuddin (PTSS), Kolej Komuniti Arau and Universiti Teknologi MARA (UiTM), Perlis (Table 46.1).

This study was done using a convenience sample technique among 254 lecturers based on the sample size proposed by Sum et al. (2008) on an equal proportion percentage from each institution. For this study, the data was collected through questionnaires which were directly distributed to the respondents. These respondents were targeted because they have experience of online shopping and come from various backgrounds.

Table 46.1 Table of population

Population	Number of lecturers
Politeknik Tuanku Syed Sirajuddin	263
Kolej Komuniti Arau	70
Universiti Teknologi MARA	386
Total	719

46.3.1 Research Measurement

The variables were measured using a five-point itemised rating scale. This type of scale measures the distance between two points on the scale, which helps the researcher to compute means and standard deviations of the responses on the variables (Sekaran and Roger 2003). Several studies suggest the optimal scale to fall between 4 and 7 points (Krosnick and Fabrigar 1997; Masters 1974; McKelvie 1978). It is argued that lesser points might compromise the information gathered. On the other hand, more points may compromise the clarity of meaning (Krosnick and Fabrigar 1997). According to Krosnick and Fabrigar (1997), the scales between 5 and 7 points are more reliable and valid than shorter or longer scales. Some studies suggest the six-point scale as the most reliable compared to other aspects (Birkett 1986; Komorita and Graham 1965).

Various instruments have been developed and used by researchers in their studies, but in this study, questionnaire was chosen as the instrument. Questionnaires were given to the respondents for their feedback and to obtain some information of the study. The study used numerical scale because data was obtained from lecturers who are consumers at Politeknik Tuanku Syed Sirajuddin Kolej Komuniti Arau and Universiti Teknologi MARA, Perlis. Here is an example of the numerical scale used in the study (Table 46.2):

Measurement for Consumer Buying Behaviour (Dependent Variable). The questionnaire contained items aimed at obtaining information on consumer buying behaviour towards online shopping store among lecturers of Politeknik Tuanku Syed Sirajuddin, Kolej Komuniti Arau and Universiti Teknologi MARA, Perlis (Table 46.3).

Measurement for Independent Variables. *Payment Mode.* The questionnaire contained questions aimed at obtaining information on the payment mode towards

Table 46.2 Table of numerical scale

Scale	Category
1	Strongly agree
2	Disagree
3	Moderate
4	Agree
5	Strongly agree

Table 46.3 The questionnaire about consumer buying behaviour

No.	Question	No. of items
1	I currently use online shopping to buy products.	6
2	The price of a product is more affordable on an online shop.	
3	I want to purchase a product from the Internet site that I regularly use.	
4	Online shopping can help me to get products of equivalent quality at lower cost.	
5	If I like something, i wouldn't think twice before spending.	
6	Buying through online shopping can help me to save time.	

Source Salehi (2012)

online shopping store among lecturers of Politeknik Tuanku Syed Sirajuddin, Kolej Komuniti Arau and Universiti Teknologi MARA, Perlis (Table 46.4).

Advertising. The questionnaire contained questions aimed at obtaining information on advertising towards online shopping stores among lecturers of Politeknik Tuanku Syed Sirajuddin, Kolej Komuniti Arau and Universiti Teknologi MARA, Perlis (Tables 46.5 and 46.6).

Table 46.4 The questionnaire about payment mode in consumer buying behaviour

No.	Question	No. of items
1	I want to shop online than face-to-face because it is easy to make payment.	5
2	I think online banking is convenient rather than using a credit card to make payment.	
3	In my opinion, online banking is easy rather than using a credit card to make payment.	
4	I prefer cash-on-delivery than payment via credit/debit card.	
5	While shopping online, I hesitate to give my credit card number.	

Source Sum et al. (2008)

Table 46.5 The questionnaire about advertising in consumer buying behaviour

No.	Question	No. of items
1	Exciting advertising may incline me to buy products.	4
2	I will pay attention to an online advertisement before I purchase the product.	
3	Advertising is beneficial to me because it provides essential information about products.	
4	The more frequently I view an advertisement, the more likely I buy the product.	

Source Katawetawaraks and Wang (2011)

Table 46.6 Analysis of reliability of questionnaire

Variable	Cronbach’s alpha
Consumer buying behaviour	0.746
Payment mode	0.643
Advertising	0.745

46.4 Analysis and Results

This study aims to measure the relationship between payment mode and advertising towards consumer buying behaviour. The analysis aims to achieve the research objective and answer the research questions.

Table 46.7 shows the descriptive statistics for the payment mode variable for online shopping buying behaviour among lecturers at public higher learning institutions (PHLI). There are five statements in this section. Statement 1: “In my opinion, online banking is easier than using a credit card to make payment.” It obtained mean value of 3.88. Statement 2: “I think online banking is convenient rather than using a credit card to make payment.” It gained mean value of 3.85. Statement 3: “I would like to shop online than face-to-face because it is easy to make payment.” It had mean value of 3.83. Statement 4: “While shopping online, I hesitate to give my credit card number,” which showed mean value of 3.58. Statement 5: “I prefer cash-on-delivery than payment via credit/debit card,” which obtained mean value of 3.41. In conclusion, all statements yielded higher interpretations of the mean.

Table 46.8 shows the descriptive statistics for the advertising variable in online shopping buying behaviour among lecturers at public higher learning institutions (PHLI).

Table 46.7 Descriptive results for payment mode

No.	Question	Mean	Standard deviation	Interpretation
1	In my opinion, online banking is easier than using a credit card to make payment.	3.88	0.907	High
2	I think online banking is convenient rather than using a credit card to make payment.	3.85	0.917	High
3	I want to shop online than face-to-face because it is easy to make payment.	3.83	0.967	High
4	While shopping online, I hesitate to give my credit card number.	3.58	0.999	High
5	I prefer online banking to payment via credit/debit card.	3.41	0.990	High
	Total	18.55	4.78	

Table 46.8 Descriptive results for advertising

No	Question	Mean	Standard deviation	Interpretation
1	Advertising is beneficial to me because it provides essential information about products.	4.04	0.794	High
2	I will pay attention to an online advertisement before I purchase the product.	3.97	0.841	High
3	Exciting advertising makes me inclined to buy the product.	3.96	0.892	High
4	The more frequently I view an advertisement, the more likely I will buy the product.	3.76	0.912	High
	Total	15.43	3.439	

Table 46.8 shows the descriptive statistics for online shopping intention among our respondents. Intention of online shopping for advertising has four questionnaires. Question 1: “Advertising is beneficial to me because it provides crucial information about products,” which had mean value of 4.04. Question 2: “I will pay attention to online advertisement before I purchase the product,” whose mean value was 3.97. Question 3: “Exciting advertising makes me inclined to buy products,” with mean value of 3.96. Question 4: “The more frequently I view an advertisement, the more likely I will buy the product,” which showed mean value of 3.76. In conclusion, all questions showed higher interpretations of the mean.

The results show that all the hypotheses were supported. It leads to the conclusion that interactivity of payment mode and advertising of online shopping among lecturers at public higher learning institutions (PHLI) has a positive relationship.

The variables of payment mode had mean value of 3.88. Next, the mean value for the variables of advertising was 4.04. Results from the mean and standard deviation show that payment mode and advertising are factors that affect online shopping behaviour among lecturers at Universiti Teknologi MARA, Politeknik Tuanku Syed Sirajuddin and Kolej Komuniti Arau.

Table 46.9 shows the overall finding that payment mode (Pearson correlation = 0.864) is the main factor affecting online shopping behaviour among lecturers at Universiti Teknologi MARA, Politeknik Tuanku Syed Sirajuddin and Kolej Komuniti Arau as compared to the effect of advertising (Pearson’s correlation = 0.859).

46.5 Conclusions

In this descriptive study, an attempt was made to associate factors with consumer buying behaviour of online shopping stores among lecturers of public higher learning institutions (PHLI) in Perlis, Malaysia. The influencing factors for online shopping

Table 46.9 Correlation analysis

Variables			
Variable	Consumer buying behaviour	Payment advertising	Mode
Consumer buying behaviour	1	0.864**	0.859**
Payment mode	0.864**	1	0.743**
Advertising	0.859**	0.743**	1

**Correlation is significant at 0.01 level (2-tailed)

are identified as payment mode and advertising. Payment mode has higher mean and standard deviation/correlation compared to advertising. Consumer decision making varies with the buying decision. Comparatively, complex and expensive purchases, like durable procurements, are likely to involve more buyer deliberations and more participants. This study on consumer buying behaviour attempts to throw more light on how consumers select, buy, use and dispose goods, services, ideas or experience to satisfy their needs and desires. In turn, the investigations will provide clues for the firms to develop new products, product features, prices, channels, messages and other marketing mix elements. Identification of the most and least inducement factors has thus become worthy of consideration by marketers in designing an appropriate marketing mix to entail optimal consumer satisfaction in Malaysia.

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Chapter 47

Goods and Services Tax (GST) Transition to Sales and Services Tax (SST): Impact on the Welfare of B40 and M40 Households in Malaysia



Suriyani Saidi and Mukaramah Harun

Abstract Goods and Services Tax (GST) was introduced in Malaysia from 2015 to 2018 to replace the Sales and Service Tax (SST). The primary purpose of introducing GST was to extend the government's revenue as the SST system was not transparent. However, the efficiency of the GST itself as a revenue generator was satisfactory. Whilst there was an increase in revenue each year during its implementation, at the same time, the welfare of households had to be balanced so as not to be burdened, especially those of low income. The main goal of this paper is to assess, in terms of household welfare, and compare the impact of GST and SST in Malaysia through the computable general equilibrium (CGE) model. As a first attempt, the researchers developed a basic static CGE model for Malaysia, calibrated with Social Accounting Matrix (SAM) 2014. The impact results from the simulations of group of households are presented in two scenarios. Specific emphasis on the impact of tax on B40 and M40 (in urban and rural area) households were measured using a welfare-related instrument. Among them are regressive or progressive and simultaneous equivalent variation (EV). As a result, although the implementation of GST in the Malaysian tax system drew negative perspectives compared to SST, on the welfare of the B40 and M40 households, the impact was totally different. Indeed, the characteristics of GST in Malaysia meet the necessary features, where results demonstrate that targeted income groups spend lower on tax compared to high-income groups.

Keywords GST · Household welfare · CGE

JEL Classification H22 · I38 · C68

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47.1 Introduction

In the 14th Malaysian General Election, we saw a profound change after a new government took over, and Malaysia became the first country in history which switched back its tax system from Goods and Services Tax (GST) to Sales and Services Tax (SST). Even though GST policy is known to be broader and more efficient compared to SST, however, the new government opted for SST to fulfil its promises of protecting the welfare of households compared to its efficiency in collecting tax revenue.

As we know, the SST of 10 and 5% (only for selected goods) and 6% service tax applies only to the manufacturing sector, whereas GST tax rate is 6% at every level of sales and lower than SST tax rate.

The Malaysian government has, since 1997, initiated the most efficient tax reforms from the conventional SST to a broader tax based on GST to address the fiscal challenges faced by the country. Fiscal policy has focused on stimulating economic growth, strengthening tax administration and raising tax revenue.

Among the objectives of GST is to improve the existing tax collection systems as well as to reduce budget deficit. Malaysia has experienced a deficit since 1998 until now. As recorded, Malaysia's direct tax from individual income tax covers only 1.7 million. People taxed are from a total workforce of about 12 million (Central Bank of Malaysia 2014). This figure shows that revenue earned through individual income tax does not contribute much to the government revenue.

Therefore, the Government took the step to increase its revenue by expanding the tax system through GST. Malaysia earned income of RM27 billion through GST in 2015, and in 2016, RM39 billion was obtained (Central Bank of Malaysia 2016). The amount successfully collected through GST in the first year was slightly lower than the second year, due to uncertainty of the global economy and burden of bearing the cost of management such as providing training and equipment grants to the companies involved.

With the help of various government-provided information, many entrepreneurs registered their businesses under the GST system. There are many benefits to producers because the input tax to produce something is transferred directly to the consumers. Nevertheless, along with the implementation, there is the issue of price increase marketed by producers. If it happens, what guarantee can the government give to ensure that this price increase does not occur significantly?

According to Go et al. (2005) with the implementation of uniform tax rates, the low-income group will also pay the same rate as the high-income group. So, the percentage of low-income earners will decrease compared to the percentage of consumption of the high-income group. If this happens, GST will become regressive, rather than progressive.

It is identified that the issue of impact on households is welfare. The targeted households are in the income group of B40 and M40. The Economic Planning Unit announced the group of B40 and M40 each with average income lower than RM2537 and RM5662, respectively.

The more appropriate approach of the study method is the computable general equilibrium (CGE) model. The CGE model has a set of similarities that have relationships between different variables. The framework used by CGE was through a simulation that interacts between economic agents and markets.

Therefore, the main aim of this paper is to evaluate the household welfare after the transition of GST to SST in Malaysia using the CGE model. As a first attempt, the researchers developed a basic static CGE model for Malaysia, calibrated with the 2014 SAM. Results of impact on simulation household groups are presented as different simulation scenarios. Specific emphasis on the impact on medium and low-income households is measured using welfare-related instruments. Among them are looking at regressive or progressive and equivalent variation (EV).

As a conclusion, the paper is organized as follows: Sect. 47.2 covers literature review on CGE studies that address issues of household welfare; Sect. 47.3 focuses on the relevant methodology. Section 47.4 will present the results and discussion on welfare due to changes in tax reform. Conclusions and recommendations are offered in Sect. 47.5.

47.2 Literature Review

47.2.1 Study on Welfare Impact

Since the issue remains new, there are a few studies in Malaysia about the impact of GST from different views. In the new taxation reform of SST implementation, there are a few studies which have compared the different impact within tax reforms but from different perspectives and objectives. A study conducted by Hassan et al. (2016) focused on the impact of GST on production costs and cost of living. This study found that GST was able to lower the product prices and increase the consumer purchasing power more than SST. Nevertheless, the study only involved estimation of expectations throughout the GST by using input/output analysis.

Another study on the impact of GST on sectoral price was carried out by Kadir et al. (2016). Their paper simulated the different tax rates to identify its impact on sectoral prices. The findings show that GST increases most of sectoral prices, particularly communication and ICT sectors. They also suggested that the government imposes the GST as maximum as 6%, for adjustment of new rates would surge most of the sectoral prices again.

For studies outside Malaysia, there are many studies on the impact of GST on households. Among them is the study by Ahmad and Stern (1989), which addressed the issue of income and welfare distribution. Another study by Jenkins and Khadka (1998) showed that the regressive nature of GST was problem for lower income groups than higher income earners. Regressiveness happens when the percentage of expenditure to pay GST from the total income of low-income households is higher than high-income households.

Many of the actual studies have found that GST effects are either regressive or progressive, for example, by Davis and Kay (1992), Fourie and Owen (1993), Kearney (2003) and Buettner and Erbe (2012). Through GST tax, income tax revenue grows, but consumer welfare is also important to achieve economic prosperity. The level of regressivity and progressivity can be measured through the 'C-efficiency' test.

Studies by Davis and Kay (1992) and Fourie and Owen (1993) found that the impact of GST was modest regressive even for different periods in Nigeria. The results showed that lower income groups pay more to GST tax than those with high income, whereby the study took into account the income of households which were classified into seven income categories.

Meanwhile, the study by Kearney (2003) in Nigeria showed progressive stages due to the restructuring measures by the government and the introduction of exemptions and zero-rated food items. However, there are also alternative methods such as tax exemption imposed on goods and services to ease the burden of households. One example is the exemption of taxes on essential food items such as rice, sugar, oil and flour. However, GST still impacts the low- and middle-income groups, whether good or bad, depending on the policies and measures undertaken by the government.

Some studies seem more focused on the question of whether the targeted scheme of exclusion is consistent with the poor. The study by Munoz and Sang-Wook Cho (2003) indicated that GST in Ethiopia, with the exemptions on goods and services were imbalanced as most were used by the non-poor, while Alderman and Ninno (1999) found exception factor to be a useful tool, but less effective to achieve equity goals. For instance, all groups of households can enjoy the exception.

Meanwhile, Buettner and Erbe (2012) focused on the impact of VAT exemption on the financial sector. Their study showed that revenue gained from exemption VAT is still much lower than previously estimated. However, the welfare effect of implementing VAT on financial services turned out to be negative.

A recent study on the analysis of GST incidents was conducted by Faridy and Sarker (2011). Using the Suits index and their Kakwani index, it was revealed that GST in Bangladesh is regressive. On the other hand, the study by Jenkins (2006) found that GST in the Dominican Republic was progressive. Even when expanding GST, with some exceptions of goods and services, it remains progressive. The reason is his research viewed this exception scheme in a broader context, such as comparison of previous sales tax with the GST system. According to that, it is more effective as zero exception and zero-price items are targeted at the poor.

Similarly, Hossain (1994) simulated the implications of income distribution at different GST rates in Bangladesh. The necessary implication of Hossain's semi-analysis found selected GST with some exceptions and with some additional excise (neutral yields) to be better than uniform GST. Different rates can ensure welfare by measuring the amount after the price change that the lower-income household pays rather than the high-income group. He also believed that the economic gap can be reduced. Government revenue may decline due to the exception of the elimination and zero-rated eligibility of selected goods and services, but the importance of the poor is not burdensome (Devarajan and Hossain 1998).

47.2.2 *Studies Using CGE Modelling*

The study of the general equilibrium model started in the early 1960s. Over a period of time, many studies have used the CGE model that cause changes in the direction of improvements to the model base, and there are several different techniques based on different objectives studied.

Among the well-known tax impact studies using the CGE model was by Shoven and Whalley. Their study was subsequently updated by Charles, Fullerton, Shoven and Whalley in the early 1980s where they modified the tax system and also linked the impact of GST on corporate taxes and income taxes. Their study was comprehensive to developed countries and CGE applications on the tax system to developing countries.

Hamilton and Whalley (1989) performed an analysis of GST impact on virtue in Canada. They used the CGE analysis model of 44 industries and 42 household groups by income category. By using the Hicksian theory to measure income, model parameters were calibrated to get the balance. They also simulated if GST rates expanded and if GST effects made small impacts on sectors and households.

Meanwhile, in the study by Devarajan et al. (1987), the impact of GST tax revenue by 10% was analysed in Thailand using the CGE model. The objective of the study was to determine whether the GST tax yields profit or loss from the impact of output, price and income distribution. Through his research, it was found that the impact of GST changed export aggregates positively while imports were not impacted.

In another study, Ajakaiye (1999) analysed the impact of GST implementation on crucial sectors and macroeconomic aggregates where he conducted CGE analysis using data producers, distributors, importers and exporters as well as organizations previously involved with the tax system. His findings showed that almost all the effects of double taxation resulted in increased product prices. He ran three simulations using this model to see if it was possible if the policy changed.

Wittwer and Anderson (2001) also analysed the impact of GST in Australia on the wine industry using the CGE model to obtain a static comparison. Through GST, these export-oriented products benefit from a reduction in input costs. Therefore, the industry still gets profit, and tax revenue will continue to contribute to the government. Their study focused more on the effects before and after the implementation through simulation analysis.

The CGE model for India applies the function of the equation of expenditure and the use of Leontief and Cobb-Douglas (Rege 2002). The objective of the study was to focus on the impact on the agricultural sector, that is, involving low-income households. He found that the implementation of GST which replaces existing sales tax led to a reduction in welfare, especially in the agricultural sector. The reason is that the agricultural sector is the most critical sector for the lower income group.

A study by Go et al. (2005) assessed the impact of GST on welfare levels through income distribution in South Africa. Using a guided CGE model developed by Lofgren (2001), they used the existing SAM schedule in the base year 2003 and completed the simulation using 'General Algebraic Modeling System' (GAMS) and

'solver path' software. Household groups were divided into 10 categories according to the study objectives, and the constant elasticity substitution (CES) equations used for production functions. Production factors were divided into four, namely capital, high-skill labour, medium-sized labour and unskilled labour. Their study also performed four simulations to see if GST did not apply, whether there would be 50 per cent increase in GST rate, zero-rated on food and substitution of tariffs to the same GST rate. The findings showed that GST affects the welfare of the lower income group and the moderate level of progressivity structure.

Okyere and Bhattarai (2005) presented a study on the impact of GST on household welfare in various sectors and economic growth for Ghana through static and dynamic CGE. They studied both effects to see whether there was any difference. Results for the dynamic model were more favourable than statics because the time factor was taken into account.

Besides that, Meagher and Parmenter (1995) analysed the impact of the short-term consumer tax reform in Australia. Using the CGE model analysis, they found that GST did not have much impact on imports and domestic commodities. Even the export sector is only slightly impressed indirectly. The findings show that the impact of GST is relatively small. However, their study was too brief and did not analyse the effects of change in the composition of the Australian international trade itself.

47.3 Methodology

For impact analysis, the appropriate method is to use the CGE model analysis. The selection of the model was based on the ability of the CGE model to see the impact between household and government sectors. This is in line with Blake and Gillham's (2006) postulation that the CGE model is able to gauge the overall economic impact. It is a static model based on the standard CGE model and calibrated with the 2014 Malaysian SAM.

The Malaysian GST-CGE model followed the ORANI-G model of the Australian Economy and UPGEM, the CGE modelling from South Africa. A complete description, including the theoretical structure of the ORANI-G model, is provided by Dixon et al. (2013). The Malaysian model, like ORANI and UPGEM, can be described as an economy-wide, comparative static CGE model of the Johansen. The Malaysian CGE model is based on Malaysian Macro SAM 2014 and Micro SAM 2014, published by the Department of Statistics Malaysia (DOSM). The Micro SAM 2014 consists of 32 domestic industries, 32 commodities, six income types and six household categories of rural and urban areas.

MYGST_CGE has a theoretical structure which consists of equations describing a period:

- (i) Demand from manufacturers for input/output and critical factors
- (ii) Supply of commodity manufacturers
- (iii) Demand for input into capital formation

- (iv) Household demand
- (v) Export demand
- (vi) Government requests
- (vii) The relationship of fundamental values to production costs and buyer prices
- (viii) Market conditions for commodities and critical factors
- (ix) Various macroeconomic variables and price indices

In order to facilitate the use of SAM data, the MYGST_CGE model includes similarities and identities of depict behaviour, for several periods:

- (i) Household income and transfers;
- (ii) Company earnings;
- (iii) Government revenue and transfers;
- (iv) Domestic receipts and the rest of the world (ROW).

47.3.1 Proposed Simulation Scenarios

In the simulation process of the CGE model, two scenarios were proposed in the impact assessment of GST implementation by looking at the impact on welfare of the B40 and M40 income groups (rural and urban area).

Scenario 1: The GST rate is maintained at 6% and the implementation of zero rates and tax exemption on all food items only.

Scenario 2: Tax rate of GST is abolished and the standard rate of Sales and Services Tax (SST) is imposed at 10% on goods and 6% on services. Zero rates on all food items are also imposed.

47.4 Results and Discussion

As we can see the impact on each household of GST and SST payment (Table 47.1), the simulation of 6% GST tax rate with zero-rates and tax exemption on all food items show a drop in the B40 and M40 groups, but the degree of decline is not significant. However, significant difference is seen in U-B40, R-B40 and R-M40 groups. The proposed simulation is that the tax rate returns of the original rate of SST shows higher burden on each household as the tax rate is higher than the GST rate. This calculation may refer to progressive or regressive impact. The SST is more regressive than GST with greater difference in every income group.

To describe the welfare effect of each simulation, the measurements of EV (see Table 47.2) are shown. A higher EV value is an indication of an increase in welfare. High-income households experience total loss in welfare due to all proposed simulations. It is likely from the effects of the income tax that this could make the

Table 47.1 Simulations impact on each household of GST and SST payment

Household	6% GST and zero rated on food	10% SST on goods and 6% on services and zero rated on food
U-B40	3.05	9.12
U-M40	3.86	10.23
U-T20	5.31	11.44
R-B40	3.92	10.55
R-M40	5.33	11.78
R-T20	5.49	12.43

Source Author's calculation on MYGST-SAM 2014 using Gempack

Table 47.2 Percent changes in Hicksian's equivalent variation (EV)

Household	6% GST and zero rated on food	10% SST on goods and 6% on services and zero rated on food
U-B40	3.36	0.72
U-M40	3.04	0.68
U-T20	2.77	0.56
R-B40	3.15	0.7
R-M40	2.95	0.66
R-T20	2.83	0.57

Source Author's calculation on MYGST-SAM 2014 using Gempack

high-income group more affected. While B40 and M40 (rural and urban) in 6% GST are in high welfare rather than 10% of SST, this shows GST is better than SST in measuring the welfare impact through Hicksian's EV.

47.5 Conclusions and Recommendations

This paper has presented the first attempt at a CGE analysis of the welfare effects of GST and SST on the household income of B40 and M40 in Malaysia. This framework allows us to measure the regressive or progressivity and welfare estimation through Hicksian equivalent variation.

The elements of exemption rate and zero-rates from GST introduce efficiency losses. Most of the exceptions and zero-rated food items are aimed at reducing the regression of GST and SST. As a result, GST is more progressive than SST. GST also reduces the welfare of all low-income households.

Although the implementation of GST in the Malaysian tax system gives negative perceptions compared to SST on the welfare of the B40 and M40 households, the impact is totally different.

In general, the results of this study indicate that the characteristics of GST in Malaysia meet the features where results demonstrate that targeted income groups spend less on tax compared to the high-income groups. The GST implementation should be continued instead of getting replaced with the old system which does not bring much benefit to the target group. However, necessary modifications are required, such as including more items in the zero GST list. Moreover, at the beginning of its implementation, the government should impose a lower rate of GST and be neutral on the outcome as is done by Singapore.

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