Chapter 32
An Empirical Analysis of Consumers' Behavioural Intention Towards Perceived Usefulness and Service Quality: A Malaysian Perspective

Audrey Ann Balraj and Kavitha Balakrishnan

Introduction

Several surveys have proven that many online selling web sites do not provide the basic and useful information in their respective selling web sites that is needed by the consumers to buy online products. Sometimes when there is lack of product information available, consumers hesitate to buy those products as they are unaware of product information. For example, a company manufactures a product and decides to sell it online. The customers will not be able to know detailed information about the product if the company does not state the useful information about the product such as the uses and the benefits of the product. Therefore, it is important to study the information needed by the consumers to buy or purchase online products, and this research identifies the perceived usefulness and service quality of e-commerce to the customers. Unlike face-to-face shopping experience where the consumers can actually discern the actual quality of the product, they cannot judge the quality of the products while purchasing them online. Therefore, this research also aims to identify if the consumers are provided with the actual quality of product as promised to them during the business transaction online.

A.A. Balraj (✉)
SMK Telok Mas, Melaka, Malaysia
e-mail: annbalraj@yahoo.com

K. Balakrishnan
Multimedia University, Jalan Ayer Keroh Lama, Bukit Beruang, Melaka, Malaysia
e-mail: kavitha.balakrishnan@mmu.edu.my

Literature Review

According to [1], "perceived usefulness" can be affected by trust both in the short term and in the long term. According to [2] perceived service quality may not have a separate ontology as a multidimensional construct, but it may have overall effect towards the service quality of a web site which is likely to be the result of the perceived usefulness and perceived trust towards the service. Reference [3] findings illustrated that perceived usefulness, which is the factor of the technology acceptance perspective, positively moderates the relationship between e-service quality, perceived service value and service satisfaction.

Research of [4] found that perceived usefulness for search function influences "perceived ease of use", whereas PEOU and perceived usefulness for purchase function influence the intention. These results tell e-tailers that cognitive beliefs in search function are important to the overall purchase function. For instance, an easy search function positively influences the ease of use of the purchase function, the usefulness of purchase function and, subsequently, the intention to purchase. Reference [5] structural equation modelling (SEM) showed that perceived enjoyment was a significant predictor of perceived usefulness and intention to use technology.

Perceived Usefulness

Perceived usefulness is one of the major behavioural beliefs that influences consumers' intention in selecting an e-commerce business. The consumer feels comfortable if the system is clear and easy to understand. Perceived usefulness is the consumers' understanding that a particular system would enhance the consumers' belief in the business. Reference [6] noted that perceived usefulness is the strongest predictor of intention to use and remain significant over a long period of time. Perceived usefulness encompasses behaviour, attitude and ease of use to generate revenue in e-commerce. When the acceptance over a certain product has somewhat satisfied the customer, then trust and perceived quality will follow suit. Reference [3] research findings illustrated that perceived usefulness is the factor of the technology acceptance perspective which positively moderates the relationship between e-service quality, perceived service value and service satisfaction. A study found "perceived usefulness" as a factor for search function and purchase function [4]. According to [2], perceived usefulness can influence perceived ease of use, perceived service quality and perceived trust.

Perceived Service Quality

According to [7], perceived service quality was found to have a significant impact on customer satisfaction. In turn, customer satisfaction was found to have a significant effect on trust. Perceived service quality is one of the potential factors which

influences the e-commerce business. The web site for the business must be properly organised. The web site must be user-friendly, must be catered for all consumers and must enable smooth shopping experience and process for the online shoppers. There are some problems which can be highlighted based on the quality of an e-commerce business. First is the web site. The web site should be designed in a way where everyone can easily get to the web page they want. The font and the colours used must be clear and attractive. Second is the quality of the server. To provide the flexibility needed to respond to customers' requests, web pages that typically support e-commerce applications must be dynamically computed. This means that the delays witnessed by users are directly affected by server performance and not simply by download times. Inevitably, more requests are made for servers' performance so that they can immediately handle the magnitude of user demand which outstrips server capacity. The outcome of poor server performance is that often some users are denied access to the server, or the accessed service is unacceptably slow. According to [2], perceived service quality and perceived usefulness are interrelated. Therefore, perceived service quality may not have a separate ontology as a multidimensional construct. The author also says that user's perceptions of detailed affordances of the service, such as the relevance and timeliness of the information, are antecedent to the overall effect towards the service, rather than being additional dimensions of perceived service quality online.

With the above literature review and findings, the researcher would like to test on the factors that will influence the behavioural intention of e-commerce consumers in Malaysia. The theory will be tested and analysed with substantial analysis and survey of 500 data.

Methods

In this study, 500 respondents were used as samples for this study. Of 500 respondents, 48.6 % were males and 51.4 % were females with 48 % within the age range of 21–30 years old and about 95 % with undergraduate qualification and above. The respondents were full-time students, part-time students, salaried professionals or educated workers who perform a semi-professional office, administrative and sales coordination tasks. Questionnaires were carefully developed, tested and debugged before they are administered on a large scale. The questionnaires were self-administered and distributed via e-mail to the respondents within Malaysia only. Convenience sampling method was used by the researchers for this research. This sampling allows the researchers to obtain responses from those people or units that are most conveniently available. Reference [8] defined perceived usefulness as the degree to which a consumer believes that using the system from a web site would provide access to useful information, comparison and faster online shopping. Generally, there is a consensus among many studies that perceived usefulness is strongly correlated to user's acceptance and should not be ignored by those attempting to design or implement successful systems and services [9].

Perceived usefulness is mostly used in the behavioural and marketing science research. Perceived usefulness is a degree which the person believes that using the particular technological system would expand his/her job performance and purchasing activities. Perceived usefulness has been authenticated in many studies of e-commerce and IS research [10]. Reference [11] also found that the relationship between e-service value and e-service is positively influenced by perceived usefulness. Reference [12] findings show that technological readiness influences perceived usefulness. Reference [13] mentioned that perceived usefulness is the extent to which a person believes that using a system will enhance their performance. Thus, the hypothesis may be stated:

H1: Perceived usefulness has a relationship with consumers' behavioural intention.

Based on computer-mediated environments like online communities, service quality is deemed as company's core service infrastructure for a company to interact with their customers [14]. Service quality could be measured by interface design, confident service, prompt service and interesting service. Service quality is referred to as the point of contact represented by the image for the company [15]. In social media context, service quality is considered as key determinant for online success [16]. According to [17], the special characteristics of the Internet make it relatively easy for online customers to switch from one e-vendor to another if one e-vendor offers better web site quality than the other. Practitioners for long have known and are aware that web site quality must be presented to competitive advantage. Overall, the authors suggest that practitioners improve the quality of their web sites to meet consumers' expectations. According to [18], consumers these days have an abundant choice of web sites and can switch vendors easily without incurring any cost. Providing the means for consumers to shop online is not enough to guarantee success in online business. An online business depends not only on consumers visiting their web site and buying their products or services but also on converting casual consumers to loyal consumers via their service quality. Thus, the following hypothesis is formulated:

H2: Perceived service quality has a relationship with consumers' behavioural intention.

Findings and Discussions

An SPSS 17.0 statistic programme was used to analyse the data collected from the respondents. In this study, 500 respondents answered the questionnaires which were self-administered and distributed via e-mail to the respondents within Malaysia only.

Table 32.1 Distribution of gender

Attributes	Frequency	Percent
Male	243	48.6
Female	257	51.4
Total	500	100.0

Descriptive Statistics

The purpose of this statistic result is to determine the respondent's demographic information. This descriptive analysis consists of gender, age, race, education background, occupation and respondent's experience towards Internet and e-commerce in Malaysia. In this section, bar chart is used to show the results from the descriptive analysis.

Gender

In this study, 500 questionnaires were collected which include 243 male respondents and 257 female respondents. The gender percentage shows that male respondents are more than female respondents which is 48.6 % for male and 51.4 % for female as shown in Table 32.1.

Age Group

Table 32.2 identifies respondent's age group towards factors on customers' behavioural intention in e-commerce transactions at Malaysia. From the result, most of the respondents are in the age range of 21–30 years old with 48 %. The findings suggest that the younger group respondents are more active in technology products and services compared to other age group in Malaysia.

Education Background and Race Group

Table 32.3 shows the education background of the respondents. From the collected data, it is evident that most respondents have undergraduate qualification and above. On the other hand, Table 32.4 shows the racial distribution of the respondents towards factors on customers' behavioural intention in e-commerce transactions at Malaysia. The Chinese respondents participated the most in this study followed by Indian and Malay respondents. Since this study was conducted within Malaysia, most of the respondents mainly belong to the three predominant races which are Chinese, Malay and Indian with a handful of other races.

Table 32.2 Distribution of age

Attributes	Frequency	Percent
20 and below	51	10.2
21–30	240	48.0
31–40	165	33.0
41–50	35	7.0
Above 51	9	1.8
Total	500	100.0

Table 32.3 Education background

Attributes	Frequency	Percent
Primary	3	0.6
Secondary school	26	5.2
Undergraduate	287	57.4
Postgraduate	50	10.0
Professionals	134	26.8
Total	500	100.0

Table 32.4 Distribution of race group

Attributes	Frequency	Percent
Malay	129	25.8
Chinese	200	40.0
Indian	156	31.2
Others	15	3.0
Total	500	100.0

Table 32.5 Number of times purchases made online per month

Attributes	Frequency	Percent
Never	65	13.0
1–5 times	273	54.6
6–10 times	145	29.0
More than 15	13	2.6
Total	500	100.0

Respondent's Usage of Internet per Month

Table 32.5 shows that most of the respondents use Internet services one to five times in a month to purchase goods and services, which is 54.6 %. This also means that the Internet has become an essential tool for purchasing goods online as it is faster and cheaper. On the other hand, some respondents also use the Internet for purchasing more than six times in a month with a percentage of 29.0 %. From the result, 13 % or 65 respondents have never participated in the Internet services in Malaysia. In contrast, only 2.6 % or 13 respondents are frequent users of Internet, and they use the services more than 15 times in a month. This shows that there are people who actively engage in purchases using the Internet every month.

Table 32.6 Variables ANOVA

Variables		Sum of squares	df	Mean square	F	Sig.
PU	Between groups	177.232	21	8.440	57.370	0.000
	Within groups	70.318	478	0.147		
	Total	247.550	499			
PSQ	Between groups	160.356	21	7.636	64.431	0.000
	Within groups	56.650	478	0.119		
	Total	217.006	499			

Table 32.7 Correlation analysis for hypothesis H1

		Perceived usefulness	Consumers' intention
Perceived usefulness	Pearson correlation	1	.791[a]
	Sig. (2 tailed)		.000
	N	500	500
Consumers' intention	Pearson correlation	.791	1
	Sig. (2 tailed)	.000	
	N	500	500

[a]Correlation is significant at the 0.01 level (2 tailed)

Table 32.6 presents the results of the one-way ANOVA test for the two dependent variables. Both the variables revealed a significant difference at the 0.05 significance level.

Pearson Correlation Testing

This section examines if there is significant or insignificant relationship of the independent variables which are perceived usefulness and perceived service quality with the dependent variable which is consumers' behavioural intention towards e-commerce in Malaysia (Table 32.7).

Objective 1

To identify the usefulness of online shopping towards consumers

H1: Perceived usefulness has a relationship with consumers' behavioural intention

Based on the above results, perceived usefulness has a strong relationship with consumers' intention. The Pearson correlation of this variable is 0.791 which indicates that perceived usefulness has a positive relationship with consumers' intention. Besides that, the significant value of the perceived usefulness is 0.000 which is exactly with the par value (0.000). Thus, this shows that these two variables are significantly correlated. These outcomes were consistent with the previous studies conducted by [13] that

Table 32.8 Coefficients

Model		Unstandardised coefficients		Standardised coefficients			Collinearity statistics	
		B	Std. error	Beta	t	Sig.	Tolerance	VIF
1.	(Constant)	.009	.126		.068	.946		
	PU	.232	.567	.160	4.220	.000	.236	3.816

[a]Development variable: consumers' behavioural intention

perceived usefulness directly influences the intention to use through attitude towards computer use. The author also stressed that the influence on consumers' intention is stronger with significant results. This is also supported by [19] study that perceived usefulness has significant relationship with behavioural intention. According to [20], perceived usefulness and satisfaction influence loyalty intention towards e-commerce. Reference [21] further stated that perceived usefulness is one of the belief constructs that displays significant determinants of consumers' attitude towards usage and their intention in using online technology. Therefore, H1 is accepted and it is confirmed that perceived usefulness had a strong influence towards consumers' intention.

According to Table 32.8, perceived usefulness is found to be a significant factor in consumers' behavioural intention ($t=4.220$, p-$value=0.000$). In addition, perceived service quality has a significant factor in consumers' behavioural intention ($t=4.543$, p-$value=0.000$). Besides, no multicollinearity problems exist as the variance inflation factor (VIF) values are below 10. The study confirms that consumers' behavioural intention towards e-commerce is influenced by perceived usefulness. The findings indicate that all the hypotheses were supported. Therefore, we can assume that e-commerce has developed well in Malaysia and many people intend to apply this service in their daily life. The study concludes that certain factors contribute and influence the consumers' behavioural intention towards e-commerce. According to correlation analysis, the study indicates that perceived usefulness has a significant relationship in consumers' behavioural intention towards e-commerce services. Consumers feel that the e-commerce is useful in providing the respondents with timely and updated information. Furthermore, the respondents prefer online purchasing to the traditional shopping as they can purchase goods and services faster. Thus, purchasing an online ticket is faster and can suit an individual's needs and wants.

Objective 2

To identify the quality perceived by the customer through e-commerce shopping

H1: Perceived service quality has a relationship with consumers' behavioural intention

According to Table 32.9, there is a positive relationship between perceived service quality and consumers' intention ($r=0.00$, $p<0.01$), which indicates that perceived service quality has a positive relationship with consumers' purchase intention. In addition, this implies that these two variables are significantly correlated.

Table 32.9 Correlation analysis for hypothesis H2

		Perceived service quality	Consumers' intention
Perceived service quality	Pearson correlation	1	.810[a]
	Sig. (2 tailed)		.000
	N	500	500
Consumers' intention	Pearson correlation	.810[a]	1
	Sig. (2 tailed)	.000	
	N	500	500

[a]Correlation is significant at the 0.01 level (2 tailed)

Table 32.10 Coefficients

Model		Unstandardised coefficients		Standardised coefficients	t	Sig.	Collinearity statistics	
		B	Std. error	Beta			Tolerance	VIF
1.	(Constant)	.009	.126		.068	.946		
	PSQ	.262	.058	.230	4.543	.000	.202	4.942

[a]Dependent variable: consumers' behavioural intention

This is consistent with [7] study that perceived service quality was found to have a significant impact on customer satisfaction. Furthermore, in social media context, service quality is considered as a key determinant for successful online business [16]. These results show that service quality plays an important role on consumers' behavioural intention towards e-commerce. Thus, H2 is accepted and it is confirmed that perceived service quality has a strong influence towards consumers' intention (Table 32.10).

The present study shows that perceived service quality had a significant relationship with the consumers' behavioural intention towards e-commerce services. The consumers believe that the online web sites provide better up-to-date information on their services and products. The consumers also are given real-time information which at times can reduce their anxieties, concerns and problems.

Conclusion

Overall, customers were quite positive about e-commerce activities and their roles. Perceived ease of use and perceived service quality show a significant variable in explaining consumer's behavioural intention to use e-commerce. It clearly shows that there is continuing improvement on e-commerce usage in Malaysia. As a result, in order to increase the behavioural intention of consumers' perceived usefulness, e-commerce activities must be enhanced. Besides, organisations should meet customers' request in an efficient manner, by providing customers with precise, error-free and updated information to inform them of their needs accurately. The

research further demonstrated that individual characteristics and technological factors may have a significant influence on instructors to adopt e-portfolios into their courses. Hence, the organisation should always make sure their e-commerce is user-friendly and can provide timely information to their consumers. This is in line with the research objective 1, which is to identify the usefulness of online shopping towards consumers.

According to [22], customers' perceptions of usefulness positively moderate e-service quality. Thus, behavioural intention of consumers can be increased further by incorporating the ideas in future study. Organisation can design their e-commerce activities in a way which is easily accessible by consumers as well as their employees. Reference [23] also agreed that consumer satisfaction is a much better predictor of behavioural intentions, whereas e-service quality is more closely related to specific evaluations about the service. Hence, building the appropriate service package can boost their intention to go online.

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