



Undergraduate Student's Acceptance of a Situational and Interactive Hotel English Learning APP: An Empirical Study Based on the Extension of UTAUT

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Abstract. With the development of information technology, smartphones have become an important channel of information acquisition, including classroom learning. Although information technology acceptance has been widely examined, research focusing on university students' acceptance toward adopting learning applications is limited. This study aims to identify determinants affecting students' technological acceptance of a Hotel English Learning APP based on the UTAUT model. Perceived entertainment and English self-efficacy were amended as antecedents of students' behavioral intention, apart from performance expectancy, effort expectancy, social influence, and facilitating conditions of UTAUT. The study gathered data from university students of Macao SAR, via a self-administered survey questionnaire. A total of 181 valid data were collected and analyzed using Partial Least Square (PLS) and SPSS. The results showed performance expectancy, effort expectancy, social influence, perceived entertainment, and English self-efficacy influence undergraduate students' intention toward using the English learning APP. Furthermore, the theoretical and practical contributions were also presented.

Keywords: User acceptance · English learning · UTAUT · Macao

1 Introduction

Technologies have been witnessed widely used in education. There are various English learning Applications available in the market. The diffusion of new technology in education and the realization of its potential advantages depend on students' acceptance and desire to use it [18]. It is extremely important for developers to understand the students' acceptance of the new technology. Moreover, when examining the use of a learning system, not only information systems (IS) usage behavior but also students learning behavior should be taken into consideration. Factors affect a student's acceptance of a learning application may differ from the use of generic information systems. Therefore, students' acceptance to a learning application deserves extra attention.

The Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh et al. [16] has become one of the most superior and leading information systems theories of users' IT acceptance nowadays. Yet, it has only received limited validation in education, especially within the Macao SAR context. This research aimed to achieve a better understanding of the use of new technologies in the educational context. The determinants of university students' technology acceptance were examined. The purpose of this study was to assess undergraduate students' behavioral intention toward using a situational and interactive Hotel English learning APP in Macao.

2 Literature Review

2.1 The Unified Theory of Acceptance and Use of Technology (UTAUT)

Several models have been proposed to examine users' acceptance and intention to use information systems (IS). The UTAUT integrated eight IS acceptance models [16]. It has been widely examined and tested its technology acceptance and adoption prediction in various studies [4, 11, 13]. UTAUT explains 70% of the variance in user intentions to use technologies; it achieves a more comprehensive understanding of IS acceptance and outperforms previous IS acceptance models [16]. Therefore, UTAUT was utilized as a research framework to explain the undergraduate students' acceptance of the situational and interactive hotel English learning APP in this research.

There are four core determinants of users' behaviors intention in UTAUT, named performance expectancy, effort expectancy, social influence, and facilitating conditions. According to Venkatesh et al. [16], performance expectancy is the extent to which a user believes a technology will enhance job performance in performing certain activities; effort expectancy refers to the degree of ease associated with the use of the technology; social influence defines the extent to which the user perceives that the relevant people (e.g., family and friends) believe he or she should use the technology; and facilitating conditions describe the users' perceptions of the resources and supports available to use the technology.

2.2 APPs Used in English Learning

Abundant teaching tools have been developed to improve teaching and learning in classrooms. The young generation people grow up with the booming of digital technologies, prefer learning actively and dislike traditional lectures [8]. English learning APP, for example, *New Concept English*, mainly was designed to present teaching content and enable students to learn independently. There are also some specially designed APPs available, providing exercises in vocabulary, listening, or oral English. However, there is no specific software matches College English classroom teaching. The design and development of a college English learning APP to assist and promote university English teaching and learning is necessary.

APP learning was considered to be a seamless learning, which enables learners to gain information without time and space limitation [21]. With an English teaching

APP, students are allowed to access more diversified learning experiences out of the traditional classroom.

Moreover, many students suffer English anxiety when studying English. "Foreign Language Anxiety" [7, p. 1812] refers to the anxiety associated with learning a foreign language or communicate in the foreign language [5]. English anxiety generates a state of tension and nervousness, which has a negative influence on students' English learning. Students feel greater pressure and more anxiety in traditional classrooms when communicating with teachers [2]. Innovative information technologies enable students' self-learning and thus reduce English learning anxiety.

3 Methodology

3.1 The Situational and Interactive Hotel English Learning APP Introduction

In this study, a situational and interactive hotel English learning APP was proposed and tested (as shown in Fig. 1). The APP covers the English of hotel's major departments, such as Front Office Department, Housekeeping Department, Catering Department, Recreation Department, Shopping Center, and Security Department. There are several different scenes of English using in every hotel functional department. For example, the scenes include dinning in a restaurant, making reservation, cruise recommendation, and check-out. Students can also role-play as a customer or waiter/waitress in every situation to do English dialogues exercises.

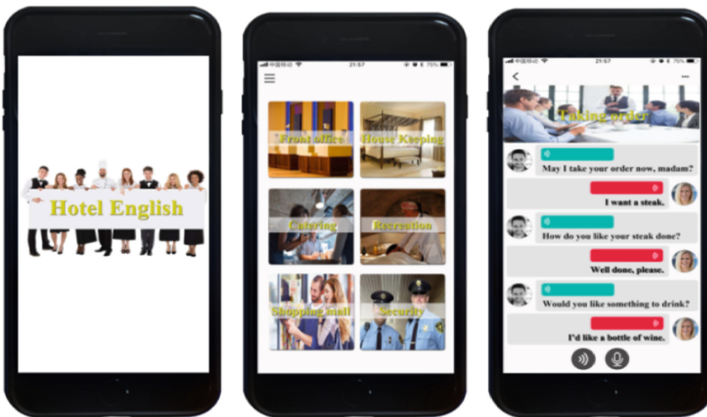


Fig. 1. Situational and interactive hotel English learning APP sample screens

3.2 Hypothesis Development and Research Model

Previous empirical studies proved that performance expectancy significantly affects the intention of using an IS [1, 10]. Researches also supported that the intention toward using an IS is significantly predicted by effort expectancy [1, 10, 17]. Moreover,

previous studies confirmed that the intention of using an IS is significantly predicted by social influence [1, 10] and facilitating conditions [10, 16, 17].

Vallerand [14] presented a model of intrinsic and extrinsic motivation. Intrinsic motivation is driven by an interest or enjoyment in the task itself. Students with intrinsic motivation are more likely to be engaged in the task [20]. Entertainment means the interface is enjoyable, pleasant and exciting [12]. Entertainment is an important predictor of users' attitudes toward a website [9]. The entertainment perceived when using the English learning APP may strengthen students' intrinsic motivation and thus enhance their desire for acceptance and usage of the technology.

Self-efficacy was defined as the judgment of one's ability to accomplish tasks [3]. English self-efficacy was referred to students' perceived abilities in English language acquisition [19]. Students with a strong sense of English self-efficacy tend to make effort and willing to overcome the difficulty in learning English. Wang et al. [19] supported that English self-efficacy significantly predicts students' score improvements in medical English proficiency. Based on the literature, the following hypotheses were proposed:

- H1: Performance expectancy (PE) has a positive influence on student's behavioral intention toward using a situational and interactive hotel English learning APP.
- H2: Effort expectancy (EE) has a positive influence on student's behavioral intention toward using a situational and interactive hotel English learning APP.
- H3: Social influence (SI) has a positive impact on student's behavioral intention toward using a situational and interactive hotel English learning APP.
- H4: Facilitating conditions (FC) have a positive impact on student's behavioral intention toward using a situational and interactive hotel English learning APP.
- H5: Perceived entertainment (PET) has a positive impact on student's behavioral intention toward using a situational and interactive hotel English learning APP.
- H6: English Self-efficacy (SE) has a positive impact on student's behavioral intention toward using a situational and interactive hotel English learning APP.

In summary, this study tried to propose an extension to UTAUT to evaluate the acceptance of the situational and interactive hotel English learning APP. The theoretical model is shown in Fig. 2.

3.3 Measurement Items

All the measurements of the constructs were adapted from previous literatures with slight modifications to suit the English learning study. A 5-point Likert scale was used, ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire contained three sections. The first section was the instructions of the hotel English-learning APP proposed in this study. The second section measured respondent's perception of each construct in the conceptual model. The last section contained the demographic information of the respondents, such as gender, age, and the frequency of learning English. The reliability of the constructs was measured by Cronbach's alpha. To meet the acceptance level, the constructs' Cronbach's alpha should exceed 0.7 [6]. The reliability of the construct in this study ranged from 0.882 to 0.967 (shown in Table 1), which indicated the questionnaire of this study was highly reliable.

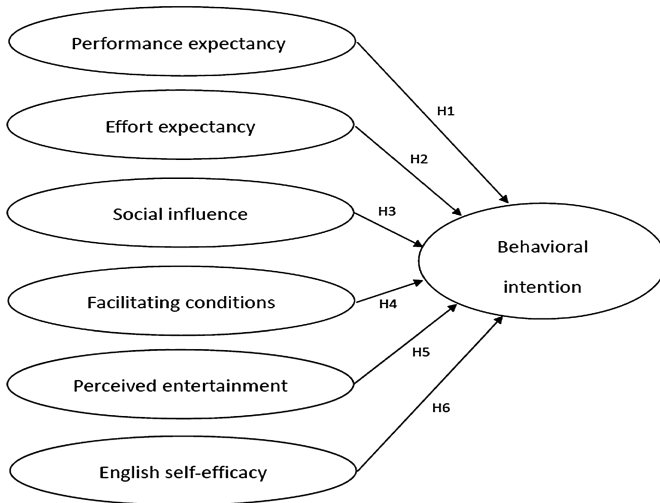


Fig. 2. The theoretical model

3.4 Sampling and Data Collection

The sample for this study was chosen from undergraduate students of Macao SAR. 200 students of the Faculty of International Tourism Management from different universities, including University of Macau, City University of Macau, and Macau University of Science and Technology, were selected. Researchers explained the features of the hotel English APP to respondents to ensure that the respondents have a good understanding of the APP before continuing the survey. Then, the self-administered survey questionnaire was utilized to assess the factors affecting students' behavioral intention toward using the English learning APP. Finally, a total of 181 valid data were collected and analyzed using Partial Least Square (PLS) and SPSS.

4 Results

Demographic characteristics of participants were surveyed using a demographic questionnaire. Participants in this study consisted of 200 college students in three Universities of Macao by the procedures described in the previous section. Finally, there were 181 valid data which could be used in this study. For these 181 students, 47.5% were male and 52.5% were female; 97.2% of the students were in the age group of 18–25; 42.5% of the students were sophomore; and 37.6% of them were senior students.

Cronbach's Alpha was used to assess the reliability of the measures used in this study. The results of the reliability analyses are presented in Table 1. The reliability of each measure was highly acceptable. In addition, the mean, standard deviation, and latent variable correlations are showed in Table 2. The correlations among these seven constructs are reasonable.

Table 1. Average Variance Extracted (AVE), Composite Reliability, and Cronbach’s Alpha

	AVE	Composite reliability	Cronbach’s Alpha
BI	0.946	0.972	0.943
EE	0.926	0.962	0.920
FC	0.808	0.927	0.882
PE	0.884	0.974	0.967
PET	0.905	0.950	0.895
SE	0.786	0.917	0.864
SI	0.931	0.964	0.926

Table 2. Descriptive statistic and latent variable correlations analysis

	Mean	SD	BI	EE	FC	PE	PET	SE	SI
BI	3.64	0.95	<i>0.973</i>						
EE	3.41	1.02	0.777	<i>0.962</i>					
FC	3.48	0.94	0.692	0.779	<i>0.899</i>				
PE	3.48	0.90	0.796	0.813	0.743	<i>0.940</i>			
PET	3.66	0.87	0.730	0.688	0.724	0.742	<i>0.951</i>		
SE	3.01	0.98	0.607	0.514	0.626	0.492	0.540	<i>0.887</i>	
SI	3.40	0.91	0.796	0.82	0.733	0.828	0.723	0.526	<i>0.965</i>

Table 3. Results of hypotheses testing

FACTOR → BI (Behavioral Intention)	Coefficient	p-value	
H1: Performance Expectancy → BI	0.271	0.007	Accept
H2: Effort Expectancy → BI	0.225	0.006	Accept
H3: Social Influence → BI	0.233	0.009	Accept
H4: Facilitating Conditions → BI	-0.114	0.158	Reject
H5: Perceived entertainment → BI	0.173	0.020	Accept
H6: English self-efficacy → BI	0.241	0.000	Accept

The bootstrapping analysis in Smart PLS programme was performed to assess the significance of the path coefficients among these six constructs. The results of the PLS analysis are shown in Fig. 3. The results of hypotheses testing are presented in Table 3. Accordingly, the final model is shown in Fig. 4.

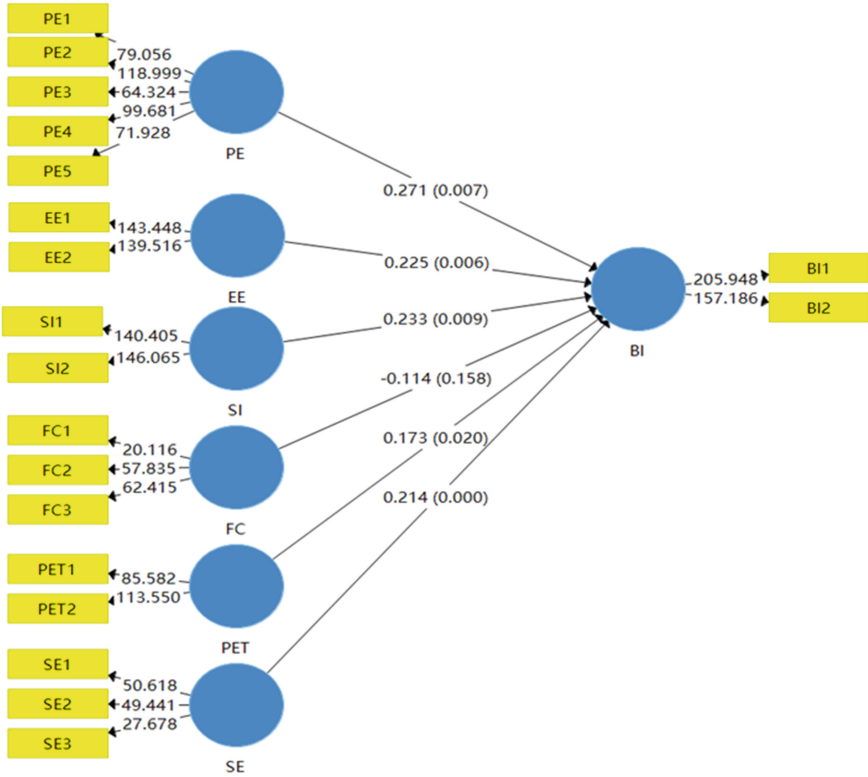
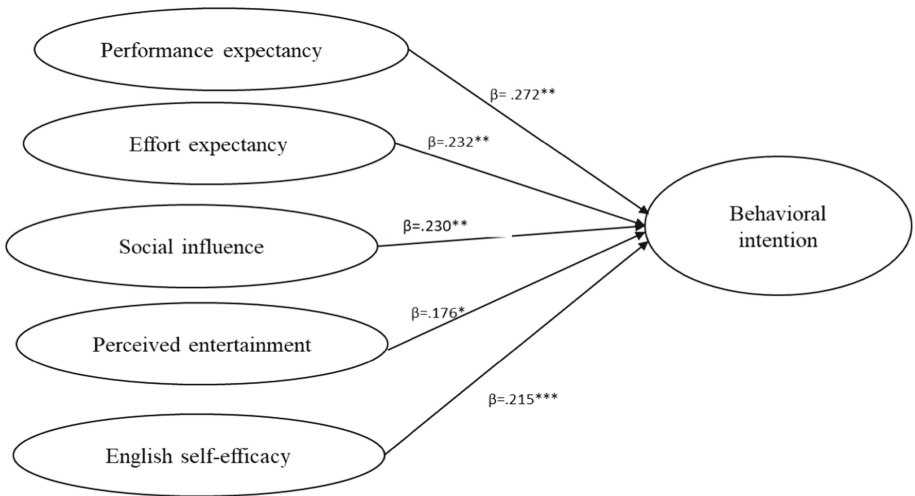


Fig. 3. The results of PLS analysis



Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Fig. 4. Final model

5 Conclusion

Using PLS with valid data provided by 181 college students from three Macao universities, the paper examined that performance expectancy, effort expectancy, social influence, perceived entertainment, and English self-efficacy have an important influence on student's behavioral intention. However, there is no significant relationship between facilitating conditions and students' behavioral intention toward using the hotel English learning APP.

5.1 Discussion

According to the PLS analysis ($R^2 = 0.753$), the final model was established. By testing the UTAUT model, the findings supported the earlier studies [7, 10]. It confirmed the importance of performance expectancy, effort expectancy, and social influence to behavioral intention. But the factor of facilitating conditions was unexpected of not having a significant influence on college student' intention toward using a hotel English learning APP. This result was contrary to the findings of prior researches [10, 16, 17]. This could result from the limitations of the UTAUT's applicability in different user populations and its levels of voluntariness. This means that facilitating conditions might have less consideration among the college students in Macao. In addition, effort expectancy could moderate the relationship between facilitating conditions and behavioral intention [15], that may be another explanation for the insignificance relationship between facilitating conditions and behavioral intention. Moreover, the findings of the study further indicated the importance of perceived entertainment and English self-efficacy to behavioral intention, which also supported the prior studies [9, 19]. It showed that both perceived entertainment and English self-efficacy are important predictors to college students' intention toward using a hotel English learning APP.

5.2 Implications

This study supported the literature on how targets of behavioral intention in college students setting respond to technology, and empirically validated the UTAUT model by going a step further to explore its applicability in an educational setting. The findings of this study confirmed the importance of performance expectancy, effort expectancy, social influence, perceived entertainment, and English self-efficacy in determining the undergraduate students' English learning behavioral intention in Macao. From a research perspective, this study contributed to the existing literature by investigating these relationships. From a practical perspective, by extending the UTAUT model, the study aimed to investigate the undergraduate students' behavioral intention to accept the situational and interactive hotel English learning APP at Macao's universities, this study provided a solution to solve the anxiety of English study, especially for college students. Thus, this research contributed to the development of UTAUT in the domain of education. The results enabled developers to become more knowledgeable about the psychological factors that encourage students to use the English learning APP. The research

substantially contributed to the design and development of the Hotel English learning APP. And that also gave a strong reference to develop related English study APP.

5.3 Limitations

There are several limitations to the research. First, the sample was limited to Macao undergraduate students, which might affect the generalization of the results. Future studies may consider collecting data from diverse regions. Second, two constructs were chosen to extend the UTAUT and investigate students' intentions toward using the hotel English APP, but there might be other potential constructs (e.g., perceived quality, flexibility) that might affect students' behavior intention. In future studies, researchers may propose alternative models to examine the determinants of users' behavioral intention toward using the hotel English APP.

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