


A Study of Mobile Devices' Acceptance in Developing EFL Listening Skill among Vietnamese High School Learners

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ABSTRACT

Keywords: learners' acceptance, EFL listening skill, mobile devices, behavioral intention

This research explored mobile devices' acceptance in EFL listening skills among Vietnamese high school learners by utilizing the updated Unified Theory of Acceptance and Use of Technology (UTAUT). The data collection method used was semi-structured interviews and quantitative surveys with 260 students from several high schools located throughout central and southern Vietnam. It was revealed that high school learners in Vietnam had a positive perspective toward the integration of mobile devices to develop their EFL listening skills and showed their readiness to adopt these educational tools in the future to this skill, owing to the educational benefits offered by these devices and the fruitful achievement achieved by learners. The findings also indicated that the constructs of the UTAUT positively correlated with each other. Specifically, effort expectancy, performance expectancy, facilitating condition, social influence, behavioral intention, and attitude had a positive correlation with one another. Moreover, the outcomes suggested that this model could explain up to 63% of the variance in learners' behavioral intention to adopt mobile devices to enhance the development of their EFL listening skills. Furthermore, the strongest predictor of behavioral intention was attitude, followed by performance expectancy and facilitating condition. Additionally, performance expectancy was discovered to best predict attitude, subsequently facilitating condition and social influence. Based on the main findings, some implications were addressed.

1. Introduction

Listening is a skill with the involvement in receiving messages in a verbal form, so it is often regarded as a receptive skill (Harmer, 1991). Undoubtedly it is a fundamental skill for language acquisition, as the only way to acquire a language is to receive linguistic input (Gilakjani & Sabouri, 2016), and listening can foster the development of other linguistic competencies

(Hamouda, 2013). However, it is widely recognized to be one of the most challenging skills for students to acquire (Tran & Duong, 2020) due to its intricate process in which "the listener takes the incoming data, the acoustic signal, and interprets that, using a wide variety of information and knowledge for a particular communicative purpose" (Buck, 2001, p29) and limited practicing opportunities in Asian countries (Hwang & Shadiey, 2014), especially in Vietnam where the primary purposes of teaching and learning English are to improve learners' grammar structures, reading, translation, and lexical skill while the value of listening tends to be underestimated (Ha & Ngo, 2021). In an effort to solve these listening-related problems, learners need significant practice (Hwang and Chen, 2013), especially with authentic listening materials which provide them with the language in real-life contexts, become familiar with natural speech tempo as well as develop motivation, particularly in the absence of threat assessment (Vandergrift, 2007).

One of the means of offering access to authentic listening materials and practice of this crucial skill is technology (Ince, 2015) which with the introduction of mobile-assisted language learning (MALL), a sub-branch and an extension of CALL (Kukulsa-Hulme et al., 2015), the learning and teaching process has drastically changed. Practitioners, educators as well as academics have developed a variety of educational applications and pedagogical techniques to maximize mobile devices' educational affordances to facilitate teaching and learning processes (Hoi, 2020). However, not all educational contexts have achieved success with M-learning integration, nor have all learners demonstrated their willingness for M-learning applications (Stockwell, 2010; Fayed et al., 2013). Therefore, it is crucial to examine learners' behavioral intention toward using mobile devices in developing EFL listening skills before formally adapting them to the learning and teaching process because learners were considered as the center of M-learning instead of the technology's mobility (Lai & Zheng, 2018), and the integration of any Information System (IS) is expensive in conjunction with efforts and the time required for its integration (Kamaludin, 2018). However, surprisingly, there are limited studies on MALL acceptance among high school learners in the existing body of literature, let alone MALL acceptance in language learning, particularly in developing listening skills in the context of developing countries. Furthermore, at this point of time, findings in regard to acceptance of MALL could be hardly generalized since the outcomes of a little current research in particular aspects such as the investigation of various learning environments (Straub et al., 1997), the explanatory strength of the different technology acceptance models employed (Thomas et al., 2013), and the findings related to learners' technology adoption in industrialized and developing economies (Thomas et al., 2013) where learners with different nationalities had a different attitude toward the use of MALL (Hsu, 2013) yielded inconsistently. To bridge this gap, the current research aims to investigate the EFL learners' acceptance of using mobile devices to foster their listening skills in high schools in Vietnam and The Unified Theory of Acceptance and Use of Technology (UTAUT, Venkatesh et al., 2003) is utilized to inform the suggested model and data analysis in this research. There are three research questions formulated and addressed in the present study as below:

Research Questions:

1. What is the Vietnamese high school students' perception toward using mobile devices in developing their EFL listening skills?
2. What are the relationships among the constructs of the UTAUT model?
3. Which factor can best predict users' behavioral intention of using mobile devices in improving listening skills?

2. Literature review

2.1 Overview of MALL

Definitions of MALL may be diverse due to the advancement of this technology and its changes in the main aims of the learning and teaching process. However, the main unique features remain unchangeable, including flexibility, accessibility, continuity, and adaptability (Loewen et al., 2019). There is a lot of literature about the benefits of MALL in education. One of the biggest advantages is "online education" (Caudill, 2007), in which learners are no longer confined to specific locations or have to sit at a desk computer. With its increasing popularity and advancing functionality, MALL has raised its potential in language learning and teaching. In fact, as stated by Lee (2005), its portability and mobility enable "learning on the move" and "anytime, anywhere learning". Learning outside the classroom has become more effective with M-learning when students can immediately relate to the real-world experience. Moreover, MALL helps learners to access the variety of input contents so that they have to incorporate the outside world with material on their gadgets and thus, receive a higher level of achievement (Nash, 2007). MALL, on the other hand, has some disadvantages in the role of an educational device. Several researchers have come to an agreement on the tiny screen of mobile devices (Begun, 2011; Mehta, 2012) or issues related to the battery charge, battery life, limited memory space, word limitation, difficulty in using these mobile tools in noisy places, teachers' difficulty in managing students with their cell phones, lack of training for teachers in designing M-learning activities (Chinnery, 2006), learners' distraction and interruption (Sevari, 2012).

In recent years, research has mainly emphasized the implementation of MALL into EFL learning and teaching. Saran et al. (2012), for instance, examined the efficacy of usage of multimedia messaging by mobile phones in assisting language students in enhancing vocabulary among 103 Turkish university students; or Kim (2013) studied Korean university learners' development of listening skills after the use of specific mobile applications, which generally showed the positive impacts of these gadgets on the process of language learning. M-learning integration, however, has not always been successful in all educational contexts, such as vocabulary learning in Japan (Stockwell, 2010), and speaking and listening skills among university learners in Qatar (Yayed, Yacoub & Hussein, 2013).

2.2 Learners' perspectives about the usage of MALL in fostering their language learning

In terms of learners' perception of enhancing language learning, Azar et al. (2014), in addition to examining the effectiveness of MALL on the listening comprehension of EFL students, they also explored learners' attitudes toward using cell phones to develop EFL listening comprehension. The study found out that most of the respondents mentioned that MALL is useful due to its ease of access and portability. Moreover, they admitted that they were given more opportunities to negotiate with their teachers and classmates. In addition, the findings also discovered that the participants receiving cell-phone based audiobooks excelled over the control ones in terms of listening comprehension. In the same vein, Hwang et al. (2014) investigated learners' perceptions toward using M-learning systems to enhance ELF oral skills, which indicated that the majority of the respondents held positive perspectives about the usage of these systems in order to foster their speaking and listening skills, which was in line with the outcomes from the study of Ahmad (2020). Specifically, the participants in his research viewed the implementation of cell phones in the classroom context as a crucial collaboration, communication, accessing, and sharing of information.

2.3 Technology acceptance models in M-learning

According to Teo (2011), technology acceptance is the term originally used in the field of business to describe the strong relationship between the suitable applications of technology and company profits. Arning & Ziefle (2007) stated that it involves the agreement and continuity of information technology use and users' readiness to employ technology to support the given tasks (Teo, 2009). As suggested by Teo (2011), in the context of education, technology cannot complete its potential regarding capabilities when the users refuse to take advantage of it. Davis (1989) established the Technology Acceptance Model (TAM), being known as one of the widely utilized acceptance models in m-learning. According to Adams (1992), with high reliability and validity, the dimensions of perceived usefulness, perceived ease of use, attitudes towards using, and users' behavioural intention were all included in TAM. However, the TAM has restrictions and is defined constantly, resulting in theoretical uncertainty and anarchy (Benbasat & Barki, 2007).

In addition, various explanatory frameworks have been utilized to examine if technology acceptance is related to its determinants. These frameworks include Ajzen's (1991) Theory of Planned Behavior (TPB), Ajzen & Fishbein's (1980) Theory of Reasoned Action (TRA), Taylor & Todd's (1995b) Decomposed Theory of Planned Behavior (DTPB), Taylor & Todd's (1995a) combination of TAM and TPB models (C-TAM TPB), Motivational Model (MM, Davis, Bagozzi & Warshaw, 1986), Triandis's (1997) Model of PC Utilization (MPCU), Rogers's (1995) Innovation Diffusion Theory (IDT), Bandura's (1996) Social Cognitive Theory (SCT) and the Motivational Model (MM, Davis, Bagozzi & Warshaw, 1992). Despite the fact that each model is selected flexibly in specific contexts or research purposes offered by these alternatives, the important unique constructs of each model may be ignored, which leads to a great reduction of the explanatory power of each model (Hoi, 2020). Venkatesh et al. (2003) recognized this and developed the UTAUT model, a combination of the IDT, SCT, C-TAM &

TPB, MPCU, MM, TAM, TBP, and TRA. According to Marchewka et al. (2007), the integration of such eight models or UTAUT can better explain intentions regarding behavior towards technology acceptance than any model standing alone.

2.4 UTAUT

In the model developed by Venkatesh et al. (2003), the four-construct UTAUT, namely facilitating condition, effort expectancy, performance expectancy, and social influence, acts as essential and direct factors in determining the behavioral intentions in using specific technology, whereas voluntariness, experience, gender, and age are moderating variables of these dimensions. This model has been popularly utilized since its emergence to assess the acceptance of technology across a variety of platforms, including MALL (Botero et al., 2018), M-learning (Abu-Al-Aish & Love, 2013; Thomas et al., 2013), podcast (Lin et al., 2013), interactive whiteboard (Tosuntas et al., 2015; Sumak & Sorgo, 2016), blogs and wikis (Avcı and Askar 2012; Yueh et al., 2015), and use of websites (Van Schaik, 2009). In spite of the fact that the usefulness of UTAUT in investigating the acceptance of technology has been proved, not many studies truly evaluated the model in its entirety, including all moderating variables, components, and hypothesized relationships (Hoi, 2020). As a result, Dwivedi et al. (2019) introduced the updated UTAUT model, which dropped all moderating variables of the initial model since it was believed that the impact of those mainly relied on certain contexts and included an extra component, namely attitude. According to these researchers, it is regarded as a vital missing construct because theoretical and empirical studies proved its important role in explaining technology acceptance. Thus, in this research, the modified UTAUT model incorporates one new construct, attitude, while eliminating all moderating variables, such as voluntariness, experience, age, and gender, because the respondents are all high school students with almost identical voluntariness, experience, gender, and age.

Performance Expectancy

Performance expectancy refers to the assumption that the utilization of a specific technology will boost an individual's performance in their job in some way (Venkatesh et al., 2003). It, in the field of MALL, relates to learners' belief that the usage of mobile devices can benefit their language achievement. It is formed as a relative advantage in IDT, outcome expectations in SC, extrinsic motivation in MM, job fit in MPCU, and perceived usefulness in TAM and TAM 2. It was found to best predict behavioral intention (Hao et al., 2017; Venkatesh et al., 2003), positively affect behavioral intention (Hao et al., 2017; Lin et al., 2013; Iqbal & Qureshi, 2012; Tan, 2013), or not significantly influence behavioral intention (Botero et al., 2018).

Effort Expectancy

Effort expectancy was described as a belief that using a given technology will be simple and require little effort. For learners of MALL, it is related to their belief of ease when utilizing mobile devices in learning languages. The ease of use in IDT, TAM/ TAM 2, and the degree of complexity in MPCU, are all seen as indicators of effort expectancy. It was suggested to significantly predict behavioral intention only during the beginning periods of usage (Venkatesh

et al., 2003), but it loses its predictive power over time. Few studies showed that it positively influenced behavioral intention (Almaiah Jali & Man, 2016; Chavoshi & Hamidi, 2019). In the research of Milisecic et al. (2015), behavioral intention, in contrast, was negatively influenced by effort expectancy. On the other hand, it was also discovered to have no impact on behavioral intention in previous research (Botero et al., 2018; Iqual & Qureshi, 2012).

Facilitating condition

Being characterized as an individual's conviction that existing organization and technical infrastructure can bolster the utilization of a modern system or technology, facilitating condition was formed as compatibility in IDT, facilitating condition in MPCU, and perceived behavioral control in TPB/DTPB. It was shown to be the predictor of learners' intention only with the exclusion of effort expectancy in the model (Venkatesh et al., 2003). Tosuntas et al. (2015), however, suggested that even in the existence of effort expectancy, facilitating condition could be the predictor of behavioral intention, which supported the outcomes from the study of Botero et al. (2018). Additionally, it was shown to positively affect behavioral intention (Botero et al., 2018; Dwivedi et al., 2019; Hao et al., 2017).

Social Influence

This term was defined as how much important people could influence a decision on the employment of specific technology of an individual. In the MALL scenario, important people such as friends, teachers, or family members can affect learners' inclination to utilize mobile devices in foreign or second language learning. It is represented as subjective norms in several acceptance models, including the image in IDT, C-TAM-TPB, TPB/DTPB, TAM/ TAM2, and TRA, and it was discovered to positively influence behavioral intention (Bris-Ponce et al., 2017; Botero et al., 2018; Yeap et al., 2016), which found no support in a study of Nassuora (2013) in which no impact of social influence on behavioral intention was explored.

Attitude

Individuals' good or negative thoughts about completing a goal behavior are termed as attitudes (Fishbein & Ajzen, 1997). In technology acceptance studies, Venkatesh et al. (2003) coined the term "attitude" as an individual's overall emotional response to the employment of new technology. Although attitude was a key element in acceptance models such as TRA and TPB, it was excluded from the initial UTAUT due to spurious relationships (Hoi, 2020). In the empirical findings of several studies, the attitude was suggested to have a decisive role in technology acceptance. It was indicated to be positively affected by performance expectancy and effort expectancy (Yeap et al., 2016), social influence (Botero et al., 2018; Nassuora, 2012) and facilitating conditions (Nassuora, 2012), and positively influence behavioural intention (Botero et al., 2018; Nassuora, 2012; Yeap et al., 2016).

Behavioral intention

It was characterized as "a measure of the strength of an individual's intention to perform a specific behavior" (Ajzen, 1991) as well as a fundamental requirement for users' approval of

user behavior (Venkatesh et al., 2003). To put it another way, it was hypothesized to positively influence the actual technology use.

2.5 Research questions

The current research aims to investigate the EFL learners' acceptance of using mobile devices to foster their listening skills in high schools in Vietnam, and The Unified Theory of Acceptance and Use of Technology (UTAUT, Venkatesh et al., 2003) is utilized to inform the suggested model and data analysis in this research. There are three research questions formulated and addressed as follows

1. What is the Vietnamese high school students' perception toward using mobile devices in developing their EFL listening skills?
2. What are the relationships among the constructs of the UTAUT model?
3. Which factor can best predict users' behavioral intention of using mobile devices in improving listening skills?

3. Methods

3.1 Pedagogical Setting & Participants

The current study recruited 260 Vietnamese students from several high schools on a voluntary basis. They were from central and southern Vietnam and were between the ages of 16 and 18. The majority of them have spent more than eight years studying English. They each own a mobile device and have prior experience utilizing them for English learning purposes. Prior to completing the study's surveys and participating in semi-structured interviews, they were asked for their consent to use their responses for the research purpose and assigned pseudonyms to ensure their anonymity.

3.2 Design of the Study

This research was conducted in a mixed-method research design, collecting data from questionnaires and semi-structured interviews.

3.3 Data collection & analysis

3.3.1 Questionnaires

The first section of the survey includes seven questions that were used to gauge the respondents' background information regarding their name, gender, age, school, length of English study, mobile devices ownership as well as their use of these gadgets to develop their listening skills. Secondly, learners were required to rate themselves on a five-point-Likert-scale survey, the updated UTAUT model, comprising six scales, namely behavioral intention, attitude, facilitating conditions, social influence, effort expectancy, and performance expectancy, mainly adapted from the prior research (Hoi, 2020) with a small adjustment to fit the purpose of this current research and the specific context of the study. For example, the original scale item

“Using mobile devices to learn a foreign language is a good idea” was modified into “Using mobile devices to develop EFL listening skill is a good idea”, and three items from the original scale “I find it convenient to use mobile devices for speaking practice”, “I find it convenient to use mobile devices for reading practice”, “I find it convenient to use mobile devices for writing practice” were deleted since the target skill in this study was listening. Therefore, the performance expectancy scale consisting of five items was used to explore learners' opinions about how useful mobile devices are in developing their EFL listening skills. The effort expectancy comprising four items was employed to measure participants' belief toward the ease associated with the usage of this technology to promote their EFL listening skills. The social influence with four items was utilized to assess the influence of important people on learners' intention to use mobile devices to foster their EFL listening skills. How much the respondents believe their usage of mobile devices to develop EFL listening skills could be assisted by the availability of technical infrastructure is measured by facilitating scales, including six items. The five items in the attitude dimension may capture the attitude of respondents toward the use of gadgets in developing EFL listening skills. Finally, the intention of participants to adopt these gadgets to improve their EFL listening skills was assessed by the four items. Additionally, in order to prevent misunderstanding on the part of the participants, the questionnaire was translated into Vietnamese by two translators having a Master's degree, majoring in applied linguistics.

3.3.2 Semi-structured interviews

In order to gauge deeper insights of the participants toward the usage of these technological tools in developing EFL listening skills as a continuation from their questionnaire's responses, twelve high school students were recruited to take part in the interview with their voluntariness, answering four guideline questions. The interview was conducted for approximately 15 minutes with each participant in their first language via Google Meet and recorded with the respondents' permission, transcribed, and translated into English.

3.3.3 Data collection

To begin with, a pilot study was conducted with three high school learners to validate the questionnaire items and check the existence of any ambiguous survey items. Therefore, the participants were required to complete the online questionnaire, then provide feedback on the items' language, comprehensibility, and clarity, followed by being further interviewed with 5 guideline questions. In the formal study, the questionnaires were distributed online by using Google form to the participants via Facebook. In an effort to maximize the likelihood of the survey reaching the target respondents, the online questionnaire was sent to the private groups on Facebook in which the members are the learners in the target high schools. In addition, the interview was conducted in their first language in order to avoid misunderstanding and allow them to express their thoughts and feelings flexibly. The interview took place for approximately 15 minutes on each participant via Google Meet, being recorded, transcribed, and translated into English.

3.3.4 Data analysis

The quantitative analysis revealed the questionnaire's statistical outcome, using the Statistical Package for the Social Science (SPSS), statically describing and measuring the mean and frequency of each variable analyzed. Descriptive statistics was operated to investigate the participants' perspective on the usage of mobile devices to enable the development of their EFL listening skill. In addition, the qualitative analysis was also employed by conducting a content analysis of the interview transcripts to shed light on the learners' perception of the usage of the gadgets to foster their EFL listening skills. Additionally, in regard to the quantitative analysis, with the employment of the Pearson correlation coefficient, the relationships among the constructs of the model were examined. Finally, multiple regression was also conducted to explore which factor can best predict behavioral intention to use these devices to improve listening skills among Vietnamese high school learners.

4. Results/Findings and discussion

4.1 Results/ Findings

RQ1: What is the Vietnamese high school students' perception toward using mobile devices in developing their EFL listening skills?

Results of the UTAUT-based Questionnaire

The descriptive statistics of the UTAUT scores, containing mean scores, and standard deviation, are summarized in Table 4.1, showing the respondents held positive perspectives toward the adoption of mobile devices to improve their EFL listening skills (M= 111.13).

Table 4.1 Descriptive Statistics of the UTAUT Scores

Scale	N	Min.	Max.	Mean	SD
UTAUT	260	31	140	111.13	17.13

Furthermore, as shown in Table 4.2, descriptive statistics showed that among six constructs of the model, facilitating condition had the highest rate (M= 23.95), followed by attitude (M= 20.55), performance expectancy (M= 19.80), behavioral intention (M= 15.88), effort expectancy (M= 15.84) while social influence had the lowest rate (M= 15.10).

Table 4.2 Descriptive Statistics of Each Dimension

Dimensions	N	Min.	Max.	Mean	SD
PE	260	5	25	19.80	3.48
EE	260	4	20	15.84	2.84
SI	260	4	20	15.10	2.98
FC	260	7	30	23.95	4.13
ATT	260	6	25	20.55	3.66
BI	260	5	20	15.88	2.92

Results of Semi-structured Interviews

Q1: Do you think using mobile devices can improve your EFL listening skill? Why or why not?

For this question, eleven interviewees admitted that the usage of mobile devices could foster their EFL listening skills because these portable technological devices offered them chances to practice EFL listening skills without the restriction of location and time. One of their responses was excerpted as follows: "I think using mobile devices can improve my EFL listening skill because with these devices, I can practice listening to English whenever I have free time and wherever I can get an internet connection. I no longer restrict myself to sit on a desk computer or wait for EFL listening lessons at school." (S1) In addition, nine of them added that mobile devices provided them with a variety of authentic listening materials, which helped them to get familiar with natural speech rates, and offered them language in real-life situations with speakers coming from English-speaking countries. They can easily access these materials on YouTube and other English learning websites such as VOA learning English. Also, some mentioned that with the popularity of mobile apps, they could communicate online with foreigners, thus not only improving their EFL listening skills but also other linguistic competence such as speaking, pronunciation, and vocabulary.

However, one of twelve participants reported that their aural skills could not be improved with the assistance of these devices. The reason she used to support her opinion was that she usually encountered internet connection issues which led to the miss of online listening lessons or being unable to smoothly access online listening materials. Her response is excerpted as below: "I don't think mobile devices can play any crucial role in the development of my EFL listening skill because my WiFi network is unstable. Hence, I cannot access online learning materials frequently, which makes me upset and angry sometimes." (S6)

Q2: What do you like and dislike about using mobile devices to develop your EFL listening skill?

Firstly, in terms of what they like when utilizing mobile devices to enhance their EFL listening skill, all of the interviewees stated that one of the biggest benefits of adopting these devices was that they were lightweight. Therefore, they could easily carry these devices with them, which enabled them to practice listening to English anywhere at any time. Moreover, six of them added that they liked the features of mobile devices, which offered available learning apps to practice EFL listening skills online and offline, and these educational devices also allowed them to download authentic listening materials.

On the other hand, problems related to internet connection were reported by the majority of the interviewees as the most popular reason they disliked when using these portable devices in the development of their EFL listening skills. Unstable connections prevented them from online practicing listening skills. In addition, the reason for making learners not like using mobile devices to develop their EFL listening skills was unreliable sources. Some students indicated that there was a variety of listening materials on the internet, but it was hard for them to know which sources were reliable and which were unreliable. Sometimes it took them a lot of time to

find good listening materials that fit their listening proficiency (S4, S7). Another reason emerging from the interview data was related to health issues. During this time, the breakout of Covid-19, most the Vietnamese high schools shut down and were forced to move online. Therefore, three of them reported that due to the amount of time using mobile devices for their online learning, they were enduring some pains in their eyes and ears.

Q3: What factor or who will influence your decision to use mobile devices to develop your EFL listening skill? How?

All of them indicated that influencers on social media and important people such as teachers, family members, and friends positively influenced their decision to use mobile devices to foster their EFL listening skills. It seemed that they tended to use these gadgets in their English listening learning process if they were recommended or encouraged to use these educational, technological tools. However, four of them added that those people only had a partial influence on their decision. Learners seemed to be the ones who made their own decision after self-evaluating the educational affordances of these gadgets in the enhancement of their EFL listening skills.

Q4: Would you like to use mobile devices to develop your EFL listening skill in the future? Why or why not?

Eleven of the respondents stated that they would continue to use these educational devices in order to enhance their EFL listening skills because of the usefulness of these devices, which offered them various listening materials and unrestricted learning processes that they could learn anywhere in their free time. Some of them said that they could personally witness their improvement in their listening skill and other linguistic competencies. However, one interviewee reported that she would not use mobile devices to develop her aural skill in the future because of health problems caused by frequently using these devices. Moreover, she mentioned that another reason preventing her from the continuation of using these educational tools was an unstable internet connection which led to unclear sound and the interruption of her listening practice process.

RQ2: What are the relationships among the constructs of the model?

As shown in Table 4.3, the participants' behavioral intention had highly positive correlations with performance expectancy ($r = .689, p < 0.01$), social influence ($r = .622, p < 0.01$), facilitating condition ($r = .665, p < 0.01$), attitude ($r = .751, p < 0.01$); and it had moderate positive correlation with effort expectancy ($r = .592, p < 0.01$). In addition, facilitating condition, social influence, effort expectancy and performance expectancy were demonstrated to highly correlate with attitude ($r = .724, p < 0.01$, $r = .637, p < 0.01$, $r = .672, p < 0.01$, $r = .695, p < 0.01$).

Table 4.3 Correlations among the Constructs of the Model

Variables	PE	EE	SI	FC	ATT	BI
PE	-					
EE	.698**	-				
SI	.646**	.653**	-			
FC	.650**	.740**	.694**	-		
ATT	.724**	.637**	.672**	.695**	-	
BI	.697**	.592**	.622**	.665**	.751**	-

Note:

** $p < .01$

RQ3: Which factor can best predict behavioral intention of using mobile devices in improving listening skills?

The outcome displayed in Table 4.4 showed that this model could explain up to 63% of the variance in learners' behavioral intention to adopt mobile devices into their EFL listening enhancement ($R^2=0.635$, $F=88.408$, $p<0.001$). In addition, the findings revealed that the strongest and significant predictor of users' behavioral intention was attitude with $\beta= .404$, $t= 6.454$, $p<0.001$ while another significant predictor was recorded on performance expectancy ($\beta= .256$, $t= 4.107$, $p<0.001$), followed by facilitating condition ($\beta= .192$, $t= 2.960$, $p<0.01$). This could be interpreted that learners with a good attitude, high-performance expectancy, and being highly aware of the availability of the technical and organizational supports would form a positive behavioral intention to utilize these gadgets in developing their EFL listening skills. Social influence and effort expectancy, however, were non-predictors of behavioral intention.

Table 4.4 Regression Analysis of Behavioral Intention

Variables	Behavioral Intention				
	B	SE B	B	T	p
PE	.215	0.52	.256***	4.107	.000
EE	-.035	.065	-.034	-.540	.589
SI	.073	.057	.074	1.266	.207
FC	.136	.046	.192**	2.960	.003
ATT	.322	.050	.404***	6.454	.000
R ²	.635				
F for change in R ²	88.408				
p	.000				

Note: ** $p < .01$, *** $p < .001$

In addition, performance expectancy was discovered to best predict attitude ($\beta= .394$, $t= 6.873$, $p< 0.001$), followed by facilitating condition ($\beta= .278$, $t= 4.429$, $p< .001$) and social influence ($\beta= .213$, $t= 3.733$, $p<.001$). Surprisingly, effort expectancy showed its no significant influence on attitude ($\beta.017$, $t= .275$, $p>.05$) (see Table 4.5).

Table 4.5 Regression Analysis of Attitude

Variables	Attitude				
	B	SE B	B	T	p
PE	.414	.060	.394***	6.873	.000
EE	.022	.081	.017	.275	.783
SI	.262	.070	.213***	3.733	.000
FC	.246	.056	.278**	4.429	.000
R2	.632				
F for change in R2	109.717				
P	.000				

Note: **p < .01, ***p < .001

4.2 Discussion

The outcomes of this research revealed that the majority of the respondents held positive perspectives about the use of mobile devices to foster their EFL listening skills which were also parallel with the study of Hwang et al. (2014), Lawrence (2015), and Ahmad (2020). In addition, the qualitative results also indicated that most learners expressed their positive perceptions. They stated that these lightweight educational tools offered them chances to practice listening to English anywhere, anytime. This feedback was consistent with a previous study (Azar, 2014), suggesting that using cell phones was useful for their EFL listening development because these portable devices could be used without the restriction of location and time. Additionally, the result of the study of Hashim et al. (2015) strongly suggested that the majority of Malaysian learners in their research perceived M-learning as useful as it allowed them to learn whenever and wherever they wanted, being in line with Liu et al., (2017); Lora and Agresott (2019); Zhang, (2016), suggesting that learners perceived utilizing mobile devices in learning languages as a facilitator and the developer of various linguistic competences. Moreover, the respondents in the current research also expressed that their decision to use mobile devices to enhance their EFL listening skills could be affected by others such as teachers, family members, peers, or influencers on social media. Some of the male interviewees, however, stated that they took other people's recommendations but eventually, they made their own decision on whether they should use mobile devices to develop EFL listening skills. This was in agreement with Sabah (2016), concluding that male learners tended to be less influenced by other people than females since they did not frequently rely much on others' opinions compared to females. In addition, the findings from the semi-structured interview in this study also emerged some pitfalls in implementing mobile devices to foster EFL listening skills among Vietnamese learners, such as internet connection-related problems, which supported the outcomes from the research of Pham et al. (2022), indicating that online learners in Vietnam faced the instability of internet connection, resulting in unclear sound or difficulties in practicing the aural skill and listening to their instructors' lesson. Additionally, unreliable sources and health issues were pointed out as challenges of adopting these tools in order to foster the improvement of listening skills

among Vietnamese high school students. These happened probably because internet connection in Vietnam was not as strong as in other countries, and during the Covid-19 breakout, the majority of Vietnamese high schools were forced to shut down, resulting in shifting from offline to online classes, leading to the overuse of these educational tools for learning purposes among Vietnamese high school learners, which in turn might cause some health-related problems such as earache and eye ache.

The outcomes for the second question, the relationships among the construct of the model were investigated, and a significant positive correlation among them was reported, which could be interpreted that facilitating condition, social influence, effort expectancy, performance expectancy, and attitude tended positively influence intention to use and vice versa. Previous studies (Chung et al., 2014; Hao et al., 2017; Lin et al., 2013; Iqbal & Qureshi, 2012; Tan, 2013) also confirmed a positive correlation between behavioral intention and performance expectancy. The positive relationship between behavioral intention and effort expectancy found in the current study echoed the findings from Almaiah Jalil & Man (2016), Chavoshi & Hamidi (2019), Chung et al. (2014); the positive one between facilitating condition and behavioral intention supported Botero et al. (2018), Chung et al. (2014), Dwivedi et al. (2019) and Hao et al. (2017). Furthermore, the positive correlation between behavioral intention and social influence and behavioral intention and attitude supported the findings in Nassuora's study (2012). The findings suggested that students with a higher level of effort expectancy, social influence, performance expectancy, attitude, and facilitating condition could form a better behavioral intention and vice versa.

On the other hand, the findings being relevant to the correlation between behavioral intention and effort expectancy were in contradiction with the research conducted by Milisecic et al. (2015). In their study, a negative relationship between these two variables was found. They attributed the inconsistency to the fact that the M-learning system would be difficult and inflexible to use, and the participants in their study needed to put a lot of effort into using it. However, in the current study, even though the participants had never had official MALL instruction or training, they possessed mobile devices and showed their familiarity with the usage of these technological devices to support their language learning process and practice their EFL listening skills.

In addition, although attitude was not modeled in the initial UTAUT model, it was demonstrated to significantly correlate with effort expectancy and performance expectancy in this research, which supported the findings from Yeap et al. (2016). Additionally, a positive relationship between facilitating conditions and attitude was also revealed in this study, which was in line with Nassuora's study (2012). Furthermore, the attitude was found to positively correlate with social influence, agreeing with the previous studies (Botero et al., (2018); Nassuora (2012). Therefore, the findings indicated that learners with higher social influence, facilitating condition, effort expectancy, and performance expectancy resulted in a higher attitude toward the usage of mobile devices to develop their EFL listening skills and vice versa.

For the last question, which was related to a factor that can best predict behavioral intention, indicated that this model could account for 63% ($R^2 = .635$) of the variance explained in behavioral intention, and attitude was the best predictor of behavioral intention ($\beta = .404$, $t = 6.454$, $p < .001$) which was in agreement with what Hoi (2020) explored in his study, and joined Botero et al. (2018) supporting Dwivedi et al. (2019) that exclusion of attitude from the initial model could greatly decrease its predictive power. In addition, this study revealed that the attitude of learners significantly influenced their behavioral intention, which was consistent with what was found in the previous studies (Botero et al., 2018; Hoi, 2020; Nassuora, 2013; Thomas et al., 2013, Yeap et al., 2016). Furthermore, it demonstrated that social influence, facilitating conditions, and performance expectancy positively influenced attitude. This finding concurred with the study of Hoi (2020), implying that when students were aware of the value of mobile devices in their EFL listening development and the support of the available technical infrastructures and organization as well as the influence from important people, they tended to develop a positive attitude and, consequently behavioral intention toward adopting mobile devices to improve their EFL listening skill.

In addition, consistent with previous research, the behavioral intention was discovered to be positively influenced by performance expectancy (Hao et al., 2017; Hoi, 2020; Nassoura, 2012; Lin et al., 2013; Venkatesh, 2003). It seemed that students with high-performance expectancy tended to be more receptive to using these gadgets to develop their EFL listening skills than those with lower performance expectancy. However, the significant positive relationship found between these two variables in this study was inconsistent with (Botero et al., 2018; Yueh et al., 2015), suggesting that behavioral intention was not positively influenced by performance expectancy. A potential explanation for this inconsistency was that the respondents in this research might effectively adopt mobile devices in developing their EFL listening skills, which positively influences their behavioral intention toward integrating these technological devices to enhance their EFL listening skills. As stated in the interview part, some of the learners mentioned that they could witness the improvement in their EFL listening skills with the assistance of mobile devices, such as a better understanding of what English speakers were talking about, being able to keep up with their speaking rate, and improving their other linguistic competence even though M-learning has not been formally introduced in Vietnamese high schools. Additionally, the outcomes showed that facilitating conditions could significantly predict behavioral intention ($\beta = .192$, $t = 2.960$, $p < 0.01$), which confirmed earlier research on M-learning employment (Botero et al., 2018; Hao et al., 2017; Hoi, 2020; Iqbal & Qureshi, 2012), suggesting that when learners were provided with more facilitating conditions to use an M-learning system, they would form a greater tendency to accept M-learning. Particularly, in this study, the findings implied that Vietnamese high school learners would be willing to adopt mobile devices to develop their EFL listening skill when facilitating conditions provided was seen as being good and helpful for their EFL listening development.

However, one of the interesting findings was that effort expectancy was not a significant predictor of behavioral intention or attitude, which supported the findings from the study of

Botero et al. (2018); Hoi (2020) but inconsistent with Milosevic et al. (2015) in which effort expectancy was indicated to negatively affect learners' behavioral intention about the use of M-learning because they felt that M-learning system was difficult and inflexible, and required much effort to use it, and the study of Almaiah Jalil & Man (2016), Chavoshi & Hamidi (2019), Hao et al. (2017), Lin et al. (2013) in which behavioral intention was significantly influenced by effort expectancy. This inconsistency could be understandable because, as suggested by Venkatesh et al. (2003), effort expectancy could significantly predict behavioral intention only in the early stages of use and lost its predictive power over time. Additionally, the results from the semi-structured interview confirmed that Vietnamese high school students in the current study were not completely unaware of using mobile devices to develop their EFL listening skills even though they did not receive any formal introduction to it. However, the results in regard to effort expectancy should be treated cautiously.

More interestingly, the findings in the current research also indicated that social influence was a non-predictor of intention to use ($p > .05$), implying that behavioral intention to use mobile devices to develop EFL listening skills among Vietnamese high school learners would not be determined by their teachers, peers or some influencers. This outcome was consistent with Attuquayefio and Addo (2014); however, it contradicted the findings from previous studies on M-learning implementation (Bris-Ponce et al., 2017; Botero et al., 2018; Hoi, 2020; Sabah, 2016; Yeap et al., 2016), indicating that social influence positively influenced behavioral intention. An alternative explanation could be that the majority of respondents in the current research were male (168 out of 260), which might affect the results of the study because social influence has been pointed out to be a better predictor of IT usage intention for women than for men in previous studies (Morris & Venkatesh, 2000; Venkatesh et al., 2003 as cited in Wang et al., 2009). In the field of M-learning adoption, Sabah (2016) concluded that males were less affected by social influence than females because they did not usually rely much on other people's opinions compared to females. In fact, the results from the interview section of the current study also revealed that some of the interviewees were partially influenced by important people or influencers on social media, and they tended to make their own decision on whether they should use these devices to foster their EFL listening skill. However, justifying and validating the explanation propositions in this study need further investigations in future research, and the results in the current research related to social influence should also be treated with caution.

Implications

Based on the findings, some implications are addressed. First of all, attitude played a crucial role in the intention of high school students to use mobile devices to enhance their EFL listening skills. Therefore, Vietnamese high school teachers and educators should find it beneficial to shape the positive attitude of learners toward mobile devices adoption in their EFL listening enhancement. One of the possible ways to accomplish this objective is spreading the word about the effectiveness and benefits of the adoption of these educational tools in enhancing their EFL listening skill. Performance expectancy was obviously more influential in determining

behavioral intention and attitude toward the adoption of these gadgets instead of effort expectancy, given that the generation of high school learners nowadays was technology-savvy. High school learners would adopt mobile devices to develop their EFL listening skills when they were convinced that these devices could help them in their EFL listening development. Therefore, in an effort to foster the usage of mobile devices to enhance high school learners' EFL listening skills, teachers and educators should show them the useful aspects of these devices in fostering the development of their EFL listening skills, such as offering the convenience of accessing authentic listening materials anytime and anywhere, enhancing their learning process, enabling them to improve not only their listening skills but also other linguistics abilities.

Although social influence was pointed out not to predict behavioral intention, it was discovered to positively influence learners' attitudes, and the respondents in semi-structured interviews expressed that their decision to use mobile devices to develop their EFL listening skills was influenced by important people with different levels among them. Therefore, high school authorities and educators should seize the chance to encourage sharing and discussions among learners on their personal experience of using these gadgets to foster their aural skills to get students motivated about the usefulness of these devices. When learners hear their peers' stories in which they successfully adopt mobile devices to enhance this skill, they probably adopt these technologies for their learning process. Also, M-learning educators can collaborate with technology developers to create some learning content appropriate and attractive to high school learners, to make them an early adopters of mobile devices in their EFL listening development. When they make a decision on employing these devices, high school students can utilize their social influence to inspire their friends to adopt mobile devices to foster their EFL listening skills. Additionally, high school teachers can recommend MALL to learners, which in turn somehow can affect their performance expectancy.

Moreover, Vietnamese teachers should consider the usage of mobile devices to improve their instruction since the traditional approach is no longer suitable for the younger population who are accustomed to these portable devices (Suria & Kamaruzaman, 2009, as cited in Azli et al., 2018). Mobile devices are a good tool for allowing better interaction among students and between learners and teachers when they are not at school.

In addition, the result indicated that the existence of suitable facilitating conditions could impact the users' behavioral intention. These facilitating conditions, consisting of support services, high internet speed, and mobile devices with advanced technology, would enable the users to experience better with the usage of mobile devices to develop their EFL listening skills. Therefore, the technology developers should consider providing the users with the appropriateness of ICT infrastructure and promoting it with the advanced technology to make the utilization of technology smooth for them as well as to decrease health-related problems caused by overusing mobile devices.

5. Conclusion

By using the modification of UTAUT, this study successfully examined EFL high school learners' acceptance of the usage of technological devices, known as mobile devices, to foster the improvement of their listening skills. The outcomes of the current research reported that the respondents in the EFL context generally had a positive perception toward M-learning adoption as well as showed their willingness to adopt these educational tools to foster their EFL listening skills in the future due to the educational affordances of these devices offering and the fruitful achievement learners were reaping. In addition, the Pearson correlation also indicated a highly positive correlation among the constructs of the model. Moreover, multiple regression analysis revealed that the UTAUT model might account for up to 63% of the variance in students' behavioral intention. Specifically, the attitude was pointed out to be the best predictor of behavioral intention, followed by performance expectancy and facilitating condition. Additionally, the findings also revealed that performance expectancy was the best determinant of attitude, followed by facilitating conditions and social influence. Based on the findings, some pedagogical implications were provided, which can hopefully benefit high school administrators, educators and teachers, and technology developers.

The current study was thoroughly conducted; however, it inevitably had some limitations. In this section, three main limitations in this research are addressed and taken into consideration, along with some suggestions for future study. First, this study is cross-sectional, solely collecting data from the respondents' self-reports and semi-structured interviews without long-term follow-up data collection. However, perspectives can change over time because users obtain more experience (Venkatesh et al., 2003). For this reason, future studies may bridge this gap by measuring high school learners' perceptions at different points in time, which can provide insight in regard to any possible shifts in acceptance over time. Moreover, experimental research is highly recommended to be conducted as an attempt to examine the effectiveness of mobile devices' adoption to develop EFL listening skills among high school learners. Secondly, the data collected only came from some high schools in the central and southern parts of Vietnam. The outcomes of the current research can hardly be generalized to all high school students in Vietnam. Therefore, future studies should also include high school learners from the north of Vietnam, where the cultural characteristics are fairly different from the other parts of Vietnam, to gauge a more representative sample, which would make the outcomes more convincing. Thirdly, the current study dropped all the moderating variables because the participants were all high school learners, sharing fairly similar moderating characteristics. Further research can include the moderating variables such as voluntariness, experience, age, and gender, and consider any improvements in the scales of social influence and effort expectancy.

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