

# INVESTIGATING THE ROLE OF USER EXPERIENCE IN THE ONLINE SHOPPING SYSTEM: AN EXTENSION OF THE TECHNOLOGY ACCEPTANCE MODEL

<sup>1</sup> QUYNH NGOHAI, <sup>2</sup>HOAI NGUYENTHANH, <sup>3</sup>VANLOI NGUYEN

<sup>1,2,3</sup> Vietnam- Korea University of Information and Communication Technology, the University of Danang, Danang, Vietnam

E-mail: <sup>1</sup>nhquynh@vku.udn.vn, <sup>2</sup>nthoai@vku.udn.vn, <sup>3</sup>nvloi@vku.udn.vn

## ABSTRACT

The Internet is increasingly being used around the world as an innovative tool to conduct effective marketing policies of goods and services. Online retailers in Vietnam are beginning to pay more attention to the importance of developing online sales systems that engage customers as well as enables them to purchase products online. However, online shopping in Vietnam is not widely applied yet. This research develops an integrated theoretical model based on TAM to identify the factors that determine user attitude and their engagement towards online shopping. Gathering information from 365 respondents in Vietnam has been conducted via a self-administered questionnaire. The research results manifest that user experience and service quality have the power to predict users' perceived usefulness and perceived ease of use, which in turn are crucial drivers of attitude and intentions towards online purchasing. The findings provide some important implications and add more certain insights about the theoretical groundwork of TAM in the Vietnamese online shopping context.

**Keywords:** TAM; Perceived Usefulness; Ease of Use; Behavioral Intentions; Online Shopping

## 1. INTRODUCTION

Along with the explosion of information technology, the acceptance and use of the Internet have facilitated the strong development of socio-economic activities, improving the quality of human life. E-commerce has great potential in improving the efficiency and enhancing the productivity of any economy [1], and also makes everyday life simpler and more innovative [2]. The spread of modern internet technologies has transformed consumers' shopping behavior from traditional media to completely different and modern attitudes and backgrounds [3]. In addition, the platform enables buyers and sellers to trade almost any product or even service over the internet. The internet is considered as a new marketing channel in manifesting a various and unique shopping environment and generating a distinct shopping background for consumers where they can purchase anything without visiting a physical store, which often brings fatigue to customers [4].

In 2011, the Los Angeles Communication Policy Center has transpired that the third most popular internet event is the advent of online shopping

together with the inception of instant messaging, web browsing, email, and other social network activities [5]. Therefore, the development of e-shopping is considered as a catalyst for a successful online business strategy and the prevalence of e-commerce sales sites that help consumers save time, cost and labor. Ozuru et al. [2] emphasized that the internet platform has facilitated retailers in transforming commercial activities by using their websites to provide clear product information and various customer care service. Furthermore, fierce competition among online sales sites (e.g., Sendo, Tiki, Lazada, Shopee) has brought a significant benefit to online buyers such as a discount on goods on special occasions, free installation, free accessories, and shorter shipping times. Consumers worldwide can shop online at any time. Hence, this is the convenience of online shopping that is becoming the main attraction for consumers [6].

Besides, one of the main reasons for online shopping to become one of the widely accepted channels is the diversity and abundance of goods and services offered, including the purchase of electronics, clothing and supplies, farming, and more [7]. Virtual shopping also gives consumers the advantage of comparing prices, converting sellers

easily without leaving their home [8] and they are not restricted by time and distance [3]. Converting more to various online stores of consumers is to satisfy their needs [9] due to the advantage of the Internet in providing a huge amount of information quickly and freely. In line with that point of view, others suggested that time, trust, convenience, and privacy [4] and more accessibility and convenience [12, 13] are major elements that promote online shopping behavior. It also sweeps away many barriers in communicating between consumers and retailers generated by location, geography, time zones, facilitating a “frictionless” business environment [14] as well as speedier transactions [15]. Therefore, the rapid growth in online sales has taken place in many areas such as books, music, video, travel, financial services, insurance, computer hardware and, software, flowers and automobiles [16].

Following the world trend, online shopping has also developed in Vietnam. Statistics found in the Vietnam E-Commerce White Paper 2019 also show that, with a growth rate of 130%, a turnover of 8.06 billion USD has been reached. Vietnam's e-commerce retail - B2C has had the highest growth rate in 3 years, in which the growth in 2016 and 2017 were 23% and 24% respectively. With this momentum, it is desirable that by 2020 retail sales of the trade sector may reach 13-15 billion USD. However, there still exists a restricted number of studies on the acceptance of online shopping in developing countries Ma'aruf & Abdulkadir [1] states that there also still exists an insufficient understanding related to shopping online and its potential impact [17]. More importantly, e-commerce in Vietnam remains in the nascent stage of development when shopping habits at physical stores, cash usage habits, consumer confidence in products sold online, and various other barriers still exist in the Vietnamese cultural context. Besides, users' participation in online shopping is affected not only by the price-related policies of online retailers but also by the ability and attitude of Information technology acceptance of users that differ among various users and information technology systems [18]. Therefore, this study was conducted in an attempt to evaluate the determinants of online shopping adoption by Vietnamese. this could help online retailers to understand more obvious behaviors of online buyers, what kinds of product or services they want to buy, why they prefer buying online, and how to the non-Internet buyer becomes an online buyer, [10] leading to attracting and retaining more customers [6].

## 2. LITERATURE AND RESEARCH HYPOTHESES

### 2.1 Technology acceptance model

The main purpose of new technology innovation usually is improving performance and productivity in the workplace [19]. However, the opportunity for obtaining better performance is likely to fail when the user rejects this new technology. Thus, user acceptance is one of the most important factors determining the success of a specific technology [20]. This has led to the advent of numerous theories including Theory of Planned Behaviour [21], Theory of Reasoned Action [22], Task Technology Fit [23], Technology Acceptance Model [24], and Unified Theory of Acceptance and Use of Technology (UTAUT) [25]. Those theoretical frameworks have been applied to explore user behavior and attitudes toward technology acceptance of users in different contexts. Among them, the TAM [24] has been considered as one of the most frequently tested and influential models and is widely applied to interpret global IT acceptance in the IS literature [26, 27, 28]. TAM provides a basis for investigating the impact of external elements on internal beliefs and behavioral intentions. In particular, this model illustrates the latent causal relationships existing between external potential variables, perceived usefulness (PU) and ease of use (PEU), attitude, behavioral intentions, and actual behaviors of users towards system usage.

Numerous research efforts have been made to comprehensively develop TAM by exploring the potential antecedents and consequences of its two use-belief constructs (PU and PEU). The original TAM has just provided very general information on users' viewpoints about a system and has not considered any specific antecedents of PU and PEU [29], hence it does not obtain “specific information that can better guide system development” [30] (p. 173). However, the results of studies of technology adoption in different contexts are often contradictory [31]. Therefore, it is expected that researchers need to be careful in selecting suitable external variables to integrate into TAM.

### 2.2 Relationships in the TAM

Previous studies that investigated the role of external variables in TAM, has proven that user experience is considered as a crucial element

influencing their technology acceptance [32, 33]. According to Smith et al. [34] (p. 227), computer-related users' experience is considered as "the amount and type of computer skills a person acquires over time". While King and He [35] (p. 747) suggested that experience is "the best-studied moderator variable in TAM", Abdullah et al. [36] claimed that it should be the fifth most commonly employed external factor for the TAM.

Exploring the role of experience in TAM has shown that it has had a positive and significant effect on PU and PEU in different contexts [37, 38, 32, 33]. In e-learning context, the literature on user acceptance towards e-learning revealed that e-learning experience influences both learners' PEOU [39, 40] and PU [41, 42]. Hence Howland & Moore and Cheung & Kan [43, 44] have demonstrated that there is a dependent relationship between the achievement of optimal experience and the development of the necessary skills to overtake course-related challenges as well as the ability to use the eLearning system. For the online shopping environment, Evwiekpaefe & Chiemekwe [45] proposed that users who have more experience employing electronic devices, and that are more familiar with the Internet, would feel more confident and comfortable with shopping online. That is, they tend to develop more favorable feelings towards the usefulness and ease of use of an online shopping system.

Besides, others have previously concluded that experienced and inexperienced users have different determinant influences on IT usage (e.g. ease of use, perceived usefulness) [46]. These authors claimed that while users without previous experience often pay the most attention to ease of use, experienced users focus on perceived usefulness because they are likely to overtake concerns about ease of use. This has led to the conclusion that the relationship between ease of use and positive attitude may be stronger for inexperienced users, in contrast, for experienced users, the bond between perceived usefulness and positive attitude will be stronger. That is, the users' divergent experience levels in employing the system have distinguishable effects on their beliefs [47]. According to Venkatesh [48], when an individual has had more experience with technology, he or she can better appreciate the benefits and costs related to using the technology. Derived from the above discussions, it is expected that the levels of user experience will affect perceived usefulness and ease of use of the online

shopping system. Therefore, hypotheses are proposed:

H1: User experience has a positive effect on PU.

H2: User experience has a positive effect on PEU.

DeLone & McLean [49] and Lin [50] noted that the most important element determining the success of the IS application is its acceptance of the user, that in which service quality can be considered as one of the key factors of this success [51]. In particular, service quality is considered as an antecedent factor to user beliefs in the DeLone and McLean's [49] model and is reiteratedly investigated as central in determining users' IS acceptance [52, 53, 49]. According to Parasuraman [54], service quality refers to a consumer's comparison of their service expectations with what they received. From IS context, service quality is considered to be the degree to which users perceive on overall service quality [52] and it refers to the availability of several communication mechanisms to assist users in promptly addressing IS usage issues [55, 56]. According to Ahn et al. [56], service quality is a crucial element of online transactions because of the absence of face-to-face contact between buyers and sellers, and is therefore indispensable for online shopping in providing online services such as finding, ordering, and delivering the specific physical products.

A significant amount of current literature available has discussed the relationships between service quality and IS-oriented factors (PU & PEU) in different ways. While few studies [57, 58, 59, 60] had found direct effects of service quality (e.g. the availability of training tools) on perceived ease of use, others revealed that the external variables (e.g. service quality) directly influence both perceived Usefulness and ease of use [61, 62, 63, 55]. Furthermore, these relationships have been proven in different contexts such as e-learning [64, 65, 61], internet shopping [55] and online retailing [56]. Hence, it is considered as a useful predictor of these two constructs in IS usage [66, 56, 62].

In other words, if the service quality of the available instruct tool system is good, the output instruct would be effective and could be reusable, thus, users believe the system is not only capable of providing accuracy in all stages of the purchasing

process, but also facilitates users in applying IT to obtain their work performance [61]. Accordingly, service quality could be an important antecedent to PU and PEOU in the shopping online context in Vietnam. Derived from these discussions, it could be summarized into the following hypotheses:

H3: Service quality has a positive effect on PU

H4: Service quality has a positive effect on PEU

The TAM incorporates PEOU, PU, A, I and U factors, laying the foundation for a significant amount of research on information and technology adoption of users [24]. Among them, Perceived Ease of Use and Perceived Usefulness are considered to be the most important constructs for determining factors of system usage [67], which means accepting or rejecting technologies by users is mainly impacted by these two constructs [24].

Perceived ease of use is considered to be the degree to which an individual accredits that employing a particular system will require less effort [24], which is a driver that accepts applications based on new technology [48]. Perceived usefulness is considered to be the extent that users believe the use of technology could improve their performance in the workplace [68]. In other words, while PEU represents user perceptions related to the process resulting in the outcome, PU reflects individuals' perceptions regarding the outcome of the experience [69].

Davis et al. [24] established this belief-attitude-intention-behavior relationship in the TAM to model the acceptance and adoption of IT [70], in which PU and PEU are of original relevance in influencing user attitude of IT acceptance. Besides, many experimental research efforts have been made to more deeply explore these relationships in different contexts.

In the context of e-learning, if online learners find it easy to employ the e-learning system, they are more likely to trust the advantages of e-learning [71, 72, 73]. That means, if learners can interact more easily with the e-learning system, the usefulness of this system will feel more apparent. Furthermore, on the same model, others have also detected a positive and significant

relationship between PU and, PEU, and users' attitude towards the use of technology [74, 75].

In online tax-payment context, Sondakh [76] proves that perceived ease of use has a considerable positive influence on the perceived usefulness and both factors, in turn, influence attitudes towards the use of electronic tax services.

In online shopping context, empirical studies have explored the relationship between PEU and PU in both emerging and developed markets, results indicated that this connection is positive and notable [77, 78, 79]. In India, Singh et al. [9] have employed 207 valid questionnaires collected from online shoppers in India to analyze the effect levels of two factors (PU & PEU) on their attitudes towards applying IT to shopping for products online. The results have shown a positive relationship among these variables. Similar results are shown in a study by Kim and Woo [80] in South Korea when these authors applied the TAM to interpret the employment of quick response codes for traceability systems among customers. Another survey on online grocery shoppers in European countries conducted by Bauerová and Klepek [81] also reveals that customers adopt this way of shopping quite differently. Besides, the results of the investigation show ease of use perceived by shoppers has a positive effect on usefulness perceived that promotes a positive attitude toward online shopping by purchasers, however, without any influence of perceived ease of use on their attitude.

In short, the easier it is for customers to employ internet-connected electronic devices to buy products online, the more they perceive its usefulness to purchasing online [81, 82, 18] and the more positive the attitude towards its usage becomes [9]. Derived from these discussions, hence, the following hypotheses are proposed.

H5: Customers' PEU of online shopping will have a positive effect on their PU of online shopping.

H6: Customers' PEU of online shopping will have a positive effect on their attitude toward online shopping.

H7: Customers' PU of online shopping will have a positive effect on their attitude towards online shopping.

CE has been considered to be a new construct in understanding and interpreting customer behavior [83] and is defined as customers' voluntary interest in a brand by combining the dimensions of cognition, vigor and emotional experience to boost behavioral intention [84; 85; 86]. Therefore, many companies appreciate the role of CE in strengthening customer-brand relationships [87]. Attitude is an evaluative judgment that describes the beliefs and feelings of consumers toward a particular object (e.g. a brand) [88]. An attitude can be considered to be the potential consumers' expected emotions about a new product and the satisfaction levels derived from their expectation of the performance of a specific device [89].

According to TRA's definition, an individual's attitude to a particular behavior is determined by personal beliefs and judgment about the outcome of that particular behavior [22], meanwhile, the theory of Planned Behaviour describes that an individual's attitude will affect their behavioral intentions [21]. Similar to this theory, TAM also claims that a person's behavioral intention in adopting technology is determined by their attitude toward its use [24]. Furthermore, the customers' attitude about online transactions significantly predicted their intention to engage in e-transactions [90]. Hence, few studies have looked into influences of users' attitude about their engagement intent in different contexts. In the vlog condition, a positive attitude toward vlogs exert has a positive effect on customer engagement [89]. Results are similar to in the e-learning context, e-learners' attitudes may be more influential in interactive engagement [91]. In shopping online context, an individual who has a positive attitude towards online shopping can generate a certain engagement predisposition. Hence, the hypothesis is proposed:

H8: Customers' attitude towards online shopping will have a positive effect on their engagement.

### 3. RESEARCH METHODOLOGY

Sample testing involves individuals surfing and shopping on the Internet. Individuals were asked if they were online shoppers, then they were asked for how long and how many times they have purchased online. Only customers who currently have shopped online at retailers' websites

can participate in the project. Through a self-administered questionnaire, a survey has been conducted for 5 weeks to collect data for research. The number of participants was 365.

To ensure the measures' validity and reliability, most of the study's items for measuring the proposed constructs were derived from validated scales in previous studies and adapted to fit the context of the study (online shopping in Vietnam). For ensuring the face validity of the items, 3 marketing experts in online retailing were invited to review the questionnaire and 15 online customers participated in a pilot test.

The final questionnaire contained 33 items for six constructs and 6 questions about candidate demographic information. The current studies' questionnaire is divided into two sections (A and B). In section A, several questions were manifested to gather demographic information such as gender, age, experience in Internet usage, marital status, online transaction, and ordered items. Section B of the questionnaire consisted of the key constructs of the research model namely, service quality, experience, PU, PEU, attitude, and engagement of users toward online shopping.

The questionnaire was initially prepared in English, however, to promote the respondents' participation and ensure the responses' reliability, it was translated into the Vietnamese language, despite this, it still ensures the consistency of two questionnaire versions.

Except for demographic information, all items (illustrated in Table 1) are designed on a seven-point Likert scale, ranging from 1 "strongly disagree" to 7 "strongly agree". Data analysis was executed via several steps by using statistical software such as Microsoft Excel 2013, SPSS v.21 and AMOS 21.0. Firstly, SPSS was utilized to generate a basic demographic summary and test the scale reliability and validity. Next, the proposed framework was tested via Structural Equation Modelling (SEM) by using AMOS.

*[Insert table 1 here]*

## 4. RESULTS

### 4.1 Descriptive Analysis

A total 365 questionnaires were distributed, and 315 were received, reaching a response rate of 86,3 %. Of these, 309 were usable and 6 were invalid responses; missing data. Among

the respondents, there were 228 (73.8 %) females and 81 (26.2%) males. The majority of the respondents (241-78%) were single, (68 - 22%) were married. While over half of the sample (61.8%) were under age 30, only a small percentage (7.4%) were above 40, the remaining 30.7% of respondents were in the 30-40 age category. All the respondents (100%) have used the internet and 9.4% of them have been using it for less than 1 year. Most of the respondents have been employing the Internet for from 1 to 3 years (69.6%) followed by 21% of them having used it for over 3 years. The most frequently cited items purchased on the Internet included clothing (55,8%), houseware (25.6%), others (18.6%).

#### 4.2 Reliability Analysis

Table 2 manifests the results of descriptive and reliability analysis. First, the mean scores of the constructs ranged from 4.222 to 4.359, standard deviations ranged from 1.044 to 1.325, meaning both were within the expected ranges. Furthermore, according to Kline [90], when skewness and kurtosis of the variables are less than 3 and 10 respectively, the dataset has a normal distribution. Results revealed they were also within the expected thresholds for normality. Derived from these results, the maximum likelihood estimation in examining the structural model could be executed [93].

Second, the reliability test by employing Cronbach's Alpha was conducted on all proposed variables to measure inter reliability. In order to maintain reliability in the results of testing, any item that was not significant was discarded. According to Hair et al. [94], acceptable level of item-to-total correlation should be greater than .50, so, three items (Ex1, PEU1, PEU2) across the six domains were eliminated to improve the respective item-to-total correlations and coefficient alphas. The variables that were tested consisted of service quality, experience, usefulness, ease of use, and users' attitude and engagement intention towards online shopping. Since all the items have Cronbach's alpha value greater than the minimum acceptable level (0.7) [95]. Besides, Kline [92] suggested that the skewness and kurtosis of the variables should be less than 3 and 10 respectively. The result indicates that the univariate normality was proven in the dataset. Hence, testing the structural model can be executed [94].

*[Insert Table 2 here]*

#### 4.3 Measurement Model

Evaluating the research model and hypothesis of the current study was conducted by using structural equation modeling (SEM) which has been widely employed in empirical studies to investigate shoppers' attitude and intention in an online shopping context. According to Anderson and Gerbing [96], to assess the validity of the proposed constructs and the measurement model, it is first necessary to conduct a confirmatory factor analysis (CFA). In the next step, SEM is used to estimate overall model fit and path coefficients of the proposed model, in which it is important to obtain a good fit for the data by reaching goodness-of-fit indices [93].

Results indicate that the model did in fact obtain a good fit for the data with indices over the recommended level ( $\chi^2/df = 1.847$ , GFI = 0.867, CFI = 0.9942, TLI = 0.934, RMSEA = 0.052).

*[Insert Table 3 here]*

In order to handle the issue of convergent validity, it is important to compute composite reliability (CR), as well as the average variance extracted (AVE). As shown in Table 4, AVE ranged from 0.534 to 0.646 and CR ranged from 0.851 to 0.901. This implies that the measurement model has obtained an adequate fit for its observed data.

*[Insert Table 4 here]*

Construct discriminant validity was estimated based on maximum shared variance (MSV) an AVE, and the inter-correlations coefficients with other corresponding constructs. As seen in Table 4, the values of MSV were lower than those of AVE, and for each construct, the square root of the AVE was higher than the inter-correlations coefficients with other corresponding constructs. All of these results support the discriminant validity of the proposed model constructs.

#### 4.4 Structural Model

SEM was used to test the proposed framework. The results shown that the TLI, CFI, IFI scores (0.919, 0.927 and 0.928, respectively) achieved requirement, suggesting a good fit between the structural and the data. The values of THE RMSEA, GFI were 0.058 and 0.855, respectively, indicating a close to good fit. The relative Chi-square/df (2.041) was within the suggested range. These fit indices were sufficient and maintain that the structural model reveals the appropriate data after considering sample size, and could possibly be applied to explain the hypotheses

in this study. Moreover, all fit indices were set in between the corresponding recommended assessment and the research model offers a good model fit.

The results of the hypotheses testing by a structural equation model analysis are indicated in Table 5

*[Insert Table 5 here]*

As expected, all proposed hypotheses are supported. All external variables in the TAM have a noticeable effect on its belief constructs, among these relationships, experience has the strongest effect on PU. Specifically, EX has a positive and significant effect on PEU and PU ( $\beta = 0.263$  and  $\beta = .328$ ,  $p < 0.001$ , respectively). It is revealed that SQ was positively associated with PEU and PU ( $\beta = 0.293$  and  $\beta = .296$ ,  $p < 0.001$ , respectively). Besides, the findings also manifest a significant and positive relationship between PEOU and PU ( $\beta = 0.28$ ,  $p < 0.001$ ). Hence H5 is accepted. PU ( $\beta = 0.582$ ,  $p < 0.001$ ) and PEU ( $\beta = 0.204$ ,  $p = 0.001$ ) strongly influence users' attitude towards online shopping. Notably, between the two determinants of user attitude, the stronger effect belongs to the relationship between PU and attitude. The relationship between users' attitude towards online shopping and their engagement was positive and significant ( $\beta = 0.632$ ,  $p < 0.001$ ). Therefore, H8 was also supported.

## 5. CONCLUSION AND IMPLICATIONS

### 5.1 Conclusion

In the context of online shopping in Vietnam, applying of TAM and SEM to analyze the causal relationship of structures affecting users' online shopping technology acceptance is relatively new. Hence it will play a huge role in adding new insights into the impact of information technology on consumer attitudes and behaviors. To do that, the main purposes of this research were to 1) examine the roles of experience and service quality in the online shopping context; 2) explore the relationships between experience and service quality and TAM's belief structures; 3) discover the different role of the PU and PEOU in shaping the users' attitude towards online shopping; and 4) estimate the role of the attitude of users toward online shopping in enhancing their engagement intention. The results show that users' experience has a positive and significant effect on TAM's belief constructs. This finding is consistent with the results of Purnomo & Lee [39] and Ewwiekpaefe &

Chiemeké [45]. This proves that users' experience is one of the crucial premises to decide the level of users' perception of usefulness and ease of use. Moreover, consumers' online shopping motives are not just derived from the utilitarian dimension of online shopping [101] but hedonic shopping motivation also [102], their experience in the shopping process is important to enhance future behavioral intentions.

The findings also confirm that service quality influences users' perception of PU and PEOU. This result is in line with a few studies that proposed service quality as one of the primary factors in e-commerce [103, 104]. However, when compared to the effect level of users' experience and service quality on PU and PEU, users' experience influences more than on users' perception of usefulness, in contrast, less than on users' perception of ease of use.

It also confirms that PEU is a main driving force of PU, hence it not only provides empirical evidence that can shed more light on the TAM in Davis's studies [24] but also is in accordance with several prior results such as [72, 71, 76]. This implies that, once users use less energy (mental and physical aspects) to learn and implement the online shopping process, they will be aware of the usefulness and effectiveness of the technology acceptance in shopping online. It's turning, they influence on users' attitude toward online shopping, in which the effect level of PU on attitude is much higher than that of PEU on attitude. That is, in online shopping context in Vietnam, users' attitudes toward online shopping are strongly determined by the usefulness and effectiveness during the product ordering and buying process through retailers' websites, and the ease of use of this process also affects their attitudes. These results are following previous research by [81] Bauerová and Klepek, who asserted that PU and PEU lead to attitude, which in turn positively effects intention among online grocery buyers in European countries.

According to [101] Childers et al., the main motivation of online buyers to engage with an online shopping environment is its utilitarian aspect, meaning such shoppers are consumers that want the shopping to be made simple, easy, and quick [68]. The results demonstrate that, thus, online retailers are not only interested in optimizing their product search engine such as backlinks quality, keyword, traffic, but also pay special attention to the convenience of interaction to

facilitate the most favorable conditions and minimize the unnecessary energy for the user. This leads to a higher likelihood for enhancement in their engagement with future behavioral intentions such as being ready to share their interesting experiences, and to post significant comments on that website.

## 5.2 Implications

The first contribution of this study explores more deeply the role of TAM's belief construct in its nomological network shopping online context. Currently, user acceptance of information systems depends on social factors such as gender, religion, culture, and politics [69, 70], hence, the study tested the extended TAM via empirical analyses in a shopping online context in Vietnam. Furthermore, the importance of experiences of online shopping has been explored deeply with the empirical evidence in Vietnamese national cultural context and findings seem to be in line with results of available literature [45; 48; 47]. It would be desirable that combining results of empirical evidences verifies the importance of experience in shaping the positive attitude and long-term engagement of users towards online shopping, leading to promoting WOM intention and repurchase.

The empirical results of this study also reveal that the service quality provided by online retailers plays an appreciable role in consumers' decision making process. According to Liu et al. (2008) [105], in the online shopping context, delays in deliveries and the neglect of consumers' inquiries could lead to negative customer attitude (e.g. dissatisfaction). Furthermore, [106] Zhou et al. suggested that personalizing the online shopping environment will enhance the excitement level of the consumers' experience, making them more engaged and loyal. To do that, thus, online retailers are not only interested in training and providing a professional customer care team to respond quickly and accurately to the requirements of consumers, widely connected with local distribution channels to ensure the delivery time, but also need to coordinate with Vietnam e-commerce associations to develop personalized customer strategies to satisfy various consumer groups.

In short, strengthening the competitive advantage of retailers is strongly related to providing goods and services more effectively,

continuing to enhance their offerings, and generating different experiences [104].

## 5.3 Limitations and future research

Besides the research contributions for literature knowledge on users' acceptance of IT, some limitations still exist. Although service quality is a multidimensional and complex construct [47], the present research has not evaluated the influence of each dimension of service quality on TAM's belief constructs and user behavioral intentions towards online shopping. Besides, in the online shopping context, Doolin et al. [107, 108] claim that cognitive risk is an important factor affecting consumers' decision-making process about whether or not to shop. This risk is regarding not only product quality and phishing, but also to personal information security policies. Hence, it is expected that future extended TAM could solve these limitations by encompassing these two factors to estimate their effect level on user attitude and behavioral intentions towards online shopping. Finally, this study only investigates online shopping in general, therefore it has not evaluated the dependence of purchase behavior on each different category, hence, future research could focus on a specific product/service category, extending the literature on TAM.

## REFERENCES:

- [1] Ma'aruf LM, Abdulkadir K. An overview of e-commerce implementation in developed and developing country; A case study of United State and Nigeria. *International Journal of Modern Engineering Research*. 2012 Sep;2(5):3068-80.
- [2] Bashir, A. Consumer Behavior towards online shopping of electronics in Pakistan, A thesis submitted in partial fulfilment of the requirements for the degree of MBA International Business Management, Seinäjoki University of Applied Sciences, Pakistan, 2013.
- [3] Ozuru, H.N. and Akahome, J.E. Website Attributes and User Perspectives of E-Tailing Firms in Port-Harcourt, Rivers State, Nigeria. *17th International Academy of African Business and Development Conference Proceeding*, 2016, 317-342
- [4] Nwokah, N. G., & Gladson-Nwokah, J. Online Shopping Experience and Customer Satisfaction in Nigeria. *7(22)*, 2016, 1-10.
- [5] Oppenheim, C., & Ward, L.. Evaluation of web sites for B2C e-commerce. In *Aslib*



- Proceedings. Emerald Group Publishing Limited, 2006.
- [6] Changchit C. Consumer perceptions of online shopping. *Issues in Information systems*. 2006;7(2):177-81.
- [7] Bin Dost MK, Illyas M, Abdul Rehman C. Online shopping trends and its effects on consumer buying behavior: A case study of young generation of Pakistan. *NG-Journal of Social Development*. 2015 Oct;417(3868):1-22.
- [8] Ali SR, Ghani NA, Said NS, Ngah HC, Shariff SN. Internet Shopping in Malaysia: TAM Model Adoption. *Journal of Basic and Applied Scientific Research*. 2014;4(2):242-65.
- [9] Singh P, Keswani S, Singh S, Sharma S. A Study of Adoption Behavior for Online Shopping: An Extension of Tam Model. *IJASSH*. 2018 Jan 8.
- [10] Kim J. Understanding consumers' online shopping and purchasing behaviors (Doctoral dissertation, Oklahoma State University).
- [11] Bonn MA, Furr HL, Susskind AM. Predicting a behavioral profile for pleasure travelers on the basis of Internet use segmentation. *Journal of Travel Research*. 1999 May;37(4):333-40.
- [12] Hartono E, Holsapple CW, Kim KY, Na KS, Simpson JT. Measuring perceived security in B2C electronic commerce website usage: A respecification and validation. *Decision Support Systems*. 2014 Jun 1;62:11-21.
- [13] Alagoz SM, Hekimoglu H. A study on tam: analysis of customer attitudes in online food ordering system. *Procedia-Social and Behavioral Sciences*. 2012 Oct 24;62:1138-43.
- [14] Yu J. Marketing to Chinese consumers on the internet. *Marketing Intelligence & Planning*. 2006 Jun 1.
- [15] Yu TK, Wu GS. Determinants of internet shopping behavior: An application of reasoned behaviour theory. *International Journal of Management*. 2007 Dec 1;24(4):744.
- [16] Bellman S, Lohse GL, Johnson EJ. Predictors of online buying behavior. *Communications of the ACM*. 1999 Dec 1;42(12):32-8.
- [17] Harn AC, Khatibi A, Ismail HB. E-Commerce: A study on online shopping in Malaysia. *Journal of Social Sciences*. 2006 Nov 1;13(3):231-42.
- [18] Lim WM, Ting DH. E-shopping: an Analysis of the Technology Acceptance Model. *Modern Applied Science*. 2012 Apr 1;6(4):49.
- [19] Yoo SJ, Han SH, Huang W. The roles of intrinsic motivators and extrinsic motivators in promoting e-learning in the workplace: A case from South Korea. *Computers in Human Behavior*. 2012 May 1;28(3):942-50.
- [20] Davis FD. User acceptance of information technology: system characteristics, user perceptions and behavioral impacts. *International journal of man-machine studies*. 1993 Mar 1;38(3):475-87.
- [21] Ajzen, I. The theory of planned behavior. *Organizational behavior and human decision processes*, 1991. 50(2), 179-211.
- [22] Fishbein, M. Ick Ajzen Belief, attitude, intention and behavior: An introduction to theory and research, 1975, 181-202.
- [23] Goodhue DL. Understanding user evaluations of information systems. *Management science*. 1995 Dec;41(12):1827-44.
- [24] Davis FD, Bagozzi RP, Warshaw PR. User acceptance of computer technology: a comparison of two theoretical models. *Management science*. 1989 Aug;35(8):982-1003.
- [25] Venkatesh V, Morris MG, Davis GB, Davis FD. User acceptance of information technology: Toward a unified view. *MIS quarterly*. 2003 Sep 1:425-478..
- [26] Benbasat I, Barki H. Quo vadis TAM?. *Journal of the association for information systems*. 2007 Apr 1;8(4):7.
- [27] Al-Gahtani SS. Empirical investigation of e-learning acceptance and assimilation: A structural equation model. *Applied Computing and Informatics*. 2016 Jan 1;12(1):27-50.
- [28] Kim J. User acceptance of web-based subscription databases: Extending the technology acceptance model.
- [29] Abbad MM, Morris D, De Nahlik C. Looking under the bonnet: Factors affecting student adoption of e-learning systems in Jordan. *International Review of Research in Open and Distributed Learning*. 2009;10(2).
- [30] Mathieson K. Predicting user intentions: comparing the technology acceptance model with the theory of planned behavior. *Information systems research*. 1991 Sep;2(3):173-91.
- [31] Gillenson ML, Sherrell DL. Enticing online consumers: an extended technology acceptance perspective. *Information & management*. 2002 Sep 1;39(8):705-19.
- [32] Premchaiswadi, W., Porouhan, P., & Premchaiswadi, N. An empirical study of the

- key success factors to adopt e-learning in Thailand. In International conference on information society (i-Society 2012) (pp. 333-338). IEEE
- [33] Williams M, Williams J. Evaluating a model of business school students' acceptance of web-based course management systems. *The International Journal of Management Education*. 2010;8(3):59-70.
- [34] Smith B, Caputi P, Crittenden N, Jayasuriya R, Rawstorne P. A review of the construct of computer experience. *Computers in human Behavior*. 1999 Mar 1;15(2):227-42.
- [35] King WR, He J. A meta-analysis of the technology acceptance model. *Information & management*. 2006 Sep 1;43(6):740-55.
- [36] Abdullah F, Ward R, Ahmed E. Investigating the influence of the most commonly used external variables of TAM on students' Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) of e-portfolios. *Computers in Human Behavior*. 2016 Oct 1;63:75-90.
- [37] Al-alak BA, Alnawas IA. Measuring the acceptance and adoption of e-learning by academic staff. *Knowledge Management & E-Learning: An International Journal*. 2011;3(2):201-21.
- [38] De Smet C, Bourgonjon J, De Wever B, Schellens T, Valcke M. Researching instructional use and the technology acceptance of learning management systems by secondary school teachers. *Computers & Education*. 2012 Feb 1;58(2):688-96.
- [39] Purnomo SH, Lee YH. E-learning adoption in the banking workplace in Indonesia: an empirical study. *Information Development*. 2013 May;29(2):138-53.
- [40] Lee YH, Hsieh YC, Chen YH. An investigation of employees' use of e-learning systems: applying the technology acceptance model. *Behaviour & Information Technology*. 2013 Feb 1;32(2):173-89.
- [41] Martin RG. Factors affecting the usefulness of social networking in e-learning at German University of Technology in Oman. *International Journal of e-Education, e-Business, e-Management and e-Learning*. 2012 Dec 1;2(6):498.
- [42] Rezaei M, Mohammadi HM, Asadi A, Kalantary K. Predicting e-learning application in agricultural higher education using technology acceptance model. *Online Submission*. 2008 Jan;9(1):85-95.
- [43] Howland JL, Moore JL. Student perceptions as distance learners in Internet-based courses. *Distance education*. 2002 Oct 1;23(2):183-95.
- [44] Cheung LL, Kan AC. Evaluation of factors related to student performance in a distance-learning business communication course. *Journal of Education for Business*. 2002 May 1;77(5):257-63.
- [45] Ewwiekpaefe & Chiemekwe Factors Influencing Online Shopping Acceptance in a Developing Economy: An Expansive Review, Taxonomy and Framework, *World Applied Sciences Journal* 2017, 35 (7): 1162-1166.
- [46] Taylor S, Todd P. Decomposition and crossover effects in the theory of planned behavior: A study of consumer adoption intentions. *International journal of research in marketing*. 1995 Jul 1;12(2):137-55.
- [47] Kim B, Choi M, Han I. User behaviors toward mobile data services: The role of perceived fee and prior experience. *Expert Systems with Applications*. 2009 May 1;36(4):8528-36.
- [48] Venkatesh V. Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information systems research*. 2000 Dec; 11(4):342-65.
- [49] DeLone WH, McLean ER. The DeLone and McLean model of information systems success: a ten-year update. *Journal of management information systems*. 2003 Apr 1;19(4):9-30.
- [50] Lin HF. Empirically testing innovation characteristics and organizational learning capabilities in e-business implementation success. *Internet Research*. 2008 Feb 1.
- [51] DeLone WH, Mclean ER. Measuring e-commerce success: Applying the DeLone & McLean information systems success model. *International Journal of electronic commerce*. 2004 Oct 1;9(1):31-47.
- [52] Kim TG, Lee JH, Law R. An empirical examination of the acceptance behaviour of hotel front office systems: An extended technology acceptance model. *Tourism management*. 2008 Jun 1;29(3):500-13.
- [53] Roca JC, Gagné M. Understanding e-learning continuance intention in the workplace: A self-determination theory perspective. *Computers in human behavior*. 2008 Jul 1;24(4):1585-604.
- [54] Parasuraman A, Zeithaml VA, Berry LL. Servqual: A multiple-item scale for measuring consumer perc. *Journal of retailing*. 1988 Apr 1;64(1):12.

- [55] Ahn T, Ryu S, Han I. The impact of the online and offline features on the user acceptance of Internet shopping malls. *Electronic commerce research and applications*. 2004 Dec 1;3(4):405-20.
- [56] Ahn T, Ryu S, Han I. The impact of Web quality and playfulness on user acceptance of online retailing. *Information & management*. 2007 Apr 1;44(3):263-75.
- [57] Thomas A, Stratton G. What we are really doing with ICT in physical education: a national audit of equipment, use, teacher attitudes, support, and training. *British Journal of Educational Technology*. 2006 Jul;37(4):617-32.
- [58] Condie R, Livingston K. Blending online learning with traditional approaches: changing practices. *British Journal of Educational Technology*. 2007 Mar;38(2):337-48.
- [59] Zhao, Y. Social studies teachers' perspectives of technology integration. *Journal of Technology and Teacher Education*, 2007, 15(3), 311–333.
- [60] Franklin C. Factors that influence elementary teachers use of computers. *Journal of technology and teacher education*. 2007 Apr;15(2):267-93.
- [61] Shah, G. U. D., Bhatti, M. N., Iftikhar, M., Qureshi, M. I., & Zaman, K. Implementation of technology acceptance model in e-learning environment in rural and urban areas of Pakistan. *World Applied Sciences Journal*, 2013, 27(11), 1495-1507.
- [62] Lee JW. Online support service quality, online learning acceptance, and student satisfaction. *The internet and higher education*. 2010 Dec 1;13(4):277-83.
- [63] Liaw SS, Huang HM, Chen GD. Surveying instructor and learner attitudes toward e-learning. *Computers & Education*. 2007 Dec 1;49(4):1066-80.
- [64] Ho LA, Kuo TH, Lin B. Influence of online learning skills in cyberspace. *Internet Research*. 2010 Feb 2..
- [65] Cheng YM. Effects of quality antecedents on e-learning acceptance. *Internet Research*. 2012 Jun 1.
- [66] Lin HF. The role of online and offline features in sustaining virtual communities: an empirical study. *Internet Research*. 2007 Apr 10.
- [67] Chen B, Sivo S, Seilhamer R, Sugar A, Mao J. User acceptance of mobile technology: A campus-wide implementation of blackboard's mobile™ learn application. *Journal of educational computing research*. 2013 Oct;49(3):327-43.
- [68] Efferson C, Lalive R, Richerson P, McElreath R, Lubell M. Models and anti-models: The structure of payoff-dependent social learning. 2006, 290, 1-28.
- [69] y Monsuwé TP, Dellaert BG, De Ruyter K. What drives consumers to shop online? A literature review. *International journal of service industry management*. 2004 Feb 1.
- [70] Di Benedetto CA, Calantone RJ, Zhang C. International technology transfer. *International Marketing Review*. 2003 Aug 1.
- [71] Seif MH, Sarmadi MR, Ebrahimzadeh I, Zare H. A model for predicting intention to use e-learning based on epistemological beliefs. *Life Science Journal*. 2012;9(2):926-9.
- [72] Teo T. Factors influencing teachers' intention to use technology: Model development and test. *Computers & Education*. 2011 Dec 1;57(4):2432-40.
- [73] Liu Y, Han S, Li H. Understanding the factors driving m-learning adoption: a literature review. *Campus-Wide Information Systems*. 2010 Aug 31.
- [74] Chow M, Herold DK, Choo TM, Chan K. Extending the technology acceptance model to explore the intention to use Second Life for enhancing healthcare education. *Computers & Education*. 2012 Dec 1;59(4):1136-44.
- [75] Chen HR, Tseng HF. Factors that influence acceptance of web-based e-learning systems for the in-service education of junior high school teachers in Taiwan. *Evaluation and program planning*. 2012 Aug 1;35(3):398-406.
- [76] Sondakh JJ. Behavioral intention to use e-tax service system: An application of technology acceptance model.
- [77] Lee D, Park J, Ahn JH. On the explanation of factors affecting e-commerce adoption. *ICIS 2001 Proceedings*. 2001 Dec 31:14.
- [78] Al-Maghrabi T, Dennis C. What drives consumers' continuance intention to e-shopping?. *International Journal of Retail & Distribution Management*. 2011 Nov 8.
- [79] Kim JB. An empirical study on consumer first purchase intention in online shopping: integrating initial trust and TAM. *Electronic Commerce Research*. 2012 May 1;12(2):125-50.
- [80] Kim YG, Woo E. Consumer acceptance of a quick response (QR) code for the food

- traceability system: Application of an extended technology acceptance model (TAM). *Food Research International*. 2016 Jul 1;85:266-72.
- [81] Bauerová R, Klepek M. Technology acceptance as a determinant of online grocery shopping adoption. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*. 2018 Jun 28;66(3):737-46.
- [82] Çelik HE, Yılmaz V. Extending the technology acceptance model for adoption of e-shopping by consumers in Turkey. *Journal of Electronic Commerce Research*. 2011 May 1;12(2):152.
- [83] Iacobucci, D., & Churchill, G. A. *Marketing research. Methodological foundations*. 10th ed. Mason, Ohio: South-Western Cengage Learning, 2010..
- [84] Quynh NH. The Moderating Influence of Brand Image on the Relationship Between Customer Engagement and Customer Loyalty. *Indian Journal of Marketing*. 2019; 49 (9):42-56.
- [85] Quynh, N.H., Hoai, N.T., Nha, N.P.N., Gi-Du, Kang. The Influence Perceived Value, Brand Image and Corporate Reputation on Customer Engagement and Customer Loyalty. *Scholars Journal of Economics, Business and Management (SJEEM)*, 2018, 5(3), 136-146.
- [86] Quynh, N.H., Nha, N.P.N., Hoai, N.T., Gi-Du, Kang. The role of customer engagement in the interrelationship process: moderating effect of customer experience. *International Journal of Business Innovation and Research*, 2020, 23(1), 64-86.
- [87] Voyles, B. Beyond loyalty: Meeting the challenge of customer engagement. *Economist Intelligence Unit*, 2007, 1, 1-15.
- [88] Kardes, F. R., Cronley, M. L., & Cline, T. W. *Consumer Behavior*. Mason, OH: SouthWestern, Cengage Learning, 2011.
- [89] Chen X. Will I buy it?: The influence of vlogs on consumer's purchase intention and engagement in Apple AirPods 2 (Master's thesis, University of Twente).
- [90] Kim DJ, Ferrin DL, Rao HR. A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. *Decision support systems*. 2008 Jan 1;44(2):544-64.
- [91] Cahill K. Psycho-spatial disidentification and class fractions in a study of social class and identity in an urban post-primary school community in Ireland. *Research Papers in Education*. 2018 Jan 1;33(1):59-72.
- [92] Kline RB. Software review: Software programs for structural equation modeling: Amos, EQS, and LISREL. *Journal of psychoeducational assessment*. 1998 Dec;16 (4):343-64.
- [93] Hair JF, Ringle CM, Sarstedt M. Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long range planning*. 2013 Mar 14;46 (1-2):1-2.
- [94] Hair JF, Money AH, Samouel P, Page M. *Research methods for business. Education+ Training*. 2007 Jun 5.
- [95] Nunnally, J. U. M. C., BERSTEIN, Ira H. *Psychometric theory*. New York: McGraw Hill, 1994.
- [96] Anderson JC, Gerbing DW. Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin*. 1988 May;103 (3):411.
- [97] Carmines EG. Analyzing models with unobserved variables. *Social measurement: Current issues*. 1981; 80.
- [98] Browne, M.W., and Cudeck, R. "Alternative ways of assessing model fit," in Bollen, K.A. and Long, J.S. (eds.), *Testing structural equation models*, Newsbury Park, CA: Sage Publications, 136-162, 1993.
- [99] Joreskog K. *LISREL VI-Analysis of Linear Structural Relations by Maximum Likelihood Instrumental Variables, and Least Square Methods. User's Guide*, Department of Statistics, University of Uppsala. 1984.
- [100] Bentler PM, Bonett DG. Significance tests and goodness of fit in the analysis of covariance structures. *Psychological bulletin*. 1980 Nov;88(3):588.
- [101] Childers TL, Carr CL, Peck J, Carson S. Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of retailing*. 2001 Dec 1;77(4):511-35.
- [102] Kim S, Eastin MS. Hedonic tendencies and the online consumer: An investigation of the online shopping process. *Journal of Internet Commerce*. 2011 Mar 30;10(1):68-90.
- [103] Yang Z, Jun M. Consumer perception of e-service quality: from internet purchaser and non-purchaser perspectives. *Journal of Business strategies*. 2002 Apr 1;19(1):19.
- [104] Cai S, Jun M. Internet users' perceptions of online service quality: a comparison of online buyers and information searchers. *Managing Service Quality: An International Journal*. 2003 Dec 1.

- 
- [105] Liu X, He M, Gao F, Xie P. An empirical study of online shopping customer satisfaction in China: a holistic perspective. *International Journal of Retail & Distribution Management*. 2008 Oct 10.
- [106] Zhou L, Dai L, Zhang D. Online shopping acceptance model-A critical survey of consumer factors in online shopping. *Journal of Electronic commerce research*. 2007 Feb 1;8(1).
- [107] Doolin B, Dillon S, Thompson F, Corner JL. Perceived risk, the Internet shopping experience and online purchasing behavior: A New Zealand perspective. *Journal of Global Information Management (JGIM)*. 2005 Apr 1;13(2):66-88.
- [108] Nguyen, T. H., Ngo, H. Q., Ngo, P. N. N., & Kang, G. D. Understanding the motivations influencing ecological boycott participation: An exploratory study in Viet Nam. *Sustainability*, 2018, 10(12), 4786.

Table 1. Sample demographic characteristics

	Gender		Age			Experience in Internet usage			Marital status		Online Transaction	
	Male	Female	under 30	30-40	above 40	<1 years	1-3 years	>3 years	Single	Married	No	Yes
Frequency	81	228	191	95	23	29	215	65	241	68	0	309
%	26.2	73.8	61.8	30.7	7.4	9.4	69.6	21	78	22	0	100

Table 2 Descriptive statistics and reliability

Constructs	Mean	Standard deviation	Skewness	Kurtosis	item-to-total correlations	Cronbach's Alpha
Trus.	4.354	1.047	-.349	-.172	.709 -.731	.884
EX	4.222	1.044	-.183	.044	.251 -.737	.814
Eng	4.403	1.114	-.330	-.478	.431 -.736	.816
cong	4.395	1.079	-.291	-.003	.650 -.735	.867
cus	4.290	1.222	.041	-.205	.786 -.751	.885
Bra	4.069	1.325	-.091	-.636	.702 -.819	.900

Table 3: Results of fit indices of the proposed model

Fit Indices		Results	Level of Acceptance	Source
Absolute Fit	X <sup>2</sup> /df	1.847	Good	Carmines and McIver [97]
	RMSEA	.052	Good	Browne and Cudeck [98]
	GFI	.867	Acceptable	Joreskog and Sorbom [99]
Incremental Fit	IFI	.942	Good	Bentler and Bonett [100]
	TLI	.934	Good	
	CFI	.942	Good	

Table 4 Convergent validity and discriminant validity

Construct	CR	AVE	MSV	ENG	SQ	PU	EX	PEU	ATT
ENG	0.901	0.646	0.382	<b>0.804</b>					
SQ	0.885	0.605	0.429	0.461***	<b>0.778</b>				
PU	0.868	0.568	0.408	0.477***	0.548***	<b>0.754</b>			
EX	0.876	0.639	0.446	0.448***	0.520***	0.560***	<b>0.800</b>		
PEU	0.851	0.534	0.294	0.410***	0.418***	0.542***	0.406***	<b>0.731</b>	
ATT	0.886	0.609	0.446	0.618***	0.655***	0.639***	0.668***	0.497***	<b>0.780</b>

Note: Diagonal value (bold) indicates the square root of average variance extracted (AVE) of construct

Table-5: The results of the relationship among constructs

Hypothesized relationships		Estimate	S.E.	C.R.	P	Result
H <sub>1</sub>	EX → PU	0.328	0.06	5.049	***	Supported
H <sub>2</sub>	EX → PEU	0.263	0.074	3.626	***	Supported
H <sub>3</sub>	SQ → PU	0.296	0.065	4.556	***	Supported
H <sub>4</sub>	SQ → PEU	0.293	0.080	4.012	***	Supported
H <sub>5</sub>	PEU → PU	0.280	0.055	4.621	***	Supported
H <sub>6</sub>	PU → ATT	0.582	0.072	7.982	***	Supported
H <sub>7</sub>	PEU → ATT	0.204	0.057	3.208	0.001	Supported
H <sub>8</sub>	ATT → ENG	0.632	0.092	9.838	***	Supported
<b>Note:</b> *** Statistically significant at $p < 0.001$						