Research on the Influencing Factors of Hanoi Consumers' Mobile Commerce Adoption Intention

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Abstract

In the era of scientific and technological prosperity, a series of mobile device applications have pushed the development of online business to the peak. According to statistics, by 2021, the number of mobile connections has exceeded the world population. Therefore, the mobile commerce market is expanding rapidly. Mobile commerce accounts for a large part of the sales of the global e-commerce industry. As of 2021, mobile commerce accounted for 65% of global retail e-commerce sales. According to appota's report, by 2020, Vietnam's mobile e-commerce revenue will reach US $5.6 billion, with an average annual growth rate of 18.6%. It is estimated that by 2023, it may reach US $10.2 billion. Hanoi, the capital of Vietnam, is the most developed city in Vietnam today. It is more urgent than ever to carry out exciting business activities with hundreds of thousands of enterprises, conduct business in different industries, understand consumers' psychology of adopting mobile commerce, and fully tap the potential of this new technology. Through literature research and empirical analysis, this paper studies the influencing factors of Hanoi consumers' mobile commerce adoption intention. Through literature research and empirical analysis, this paper studies the influencing factors of consumers' mobile commerce adoption intention. Select eight variables: subjective norms, perceived usefulness, perceived ease of use, perceived innovation, compatibility, perceived trust, perceived risk and perceived cost, establish a conceptual model, collect data through questionnaire survey, and conduct empirical analysis on the data by using SPSS 26.0 software and Amos 20 software, and draw the following research conclusions: 1. Perceived innovation, compatibility, perceived trust, subjective norms, perceived usefulness and perceived ease of use have a positive impact on consumers' mobile commerce adoption intention. 2. Consumers' subjective norms have a positive impact on consumers' perceived usefulness. 3. Consumer perceived ease of use has a positive impact on consumer perceived usefulness.

Keywords

Hanoi Consumers; Adoption Intention; Mobile Commerce; Influencing Factors.

1. Introduction

In the context of the information technology boom and the current development trend of the digital economy, business on mobile platforms is becoming a common trend in the world. Along with the explosion of information technology in general and e-commerce in particular, today the trend of multi-channel and multi-platform is the focus to attract more businesses, smart consumers are changing. Change the way you search and shop when you switch from traditional shopping to a new, more convenient shopping experience. In particular, business on mobile platforms is becoming the main trend in the context of the explosion of information technology and digital economy. E-commerce on mobile platforms is showing strong growth as it accounts for nearly half of all B2C e-commerce revenue in Vietnam. In terms of transaction

ratio, mobile platforms also show a strong growth. strongly outperformed desktop when accounting for 62% of transactions, while desktop accounted for only 38%.

With just a smartphone, everything can happen before the user's eyes. Now, customers can easily use smartphones and tablets to interact with businesses 24/7 anytime, anywhere. This also means that marketers need to take advantage of mobile to connect with consumers, conduct mobile commerce campaigns to do business effectively. According to technology experts, the business trend on mobile platforms in Vietnam is favorable for development and increasingly popular for the following two reasons:

First, mobile business platforms prove their usefulness as the number of users increases. Businesses are redirecting this to redirect, build new, or optimize commercial websites for mobile devices.

Second, today's young people have the habit of connecting to the internet, using phones and tablets to view goods, buy goods and rarely go to retail stores... so investing in mobile sales channels will be more effective. Smartphones have become an important tool in a mobile network environment that transmits information to consumers more quickly than on fixed devices, such as personal computers.

In fact, according to statistics, the number of visits on the system of more than 33,000 customer websites of Sapo Web in 2018 in Vietnam, more than 60% of the visits to the website are from mobile devices. increased 5% compared to 2017. At Lazada, the number of people shopping via mobile applications by the end of 2018 increased by 60% compared to the beginning of the year and the number of orders from mobile applications accounted for 70% of total orders. products from Lazada.

Surveys also show that around 70% of consumers' online time is via mobile devices, and one in two online purchases is made by phone. Therefore, if the mobile payment platform is built to be eye-catching and convenient, the number of customers shopping via mobile is likely to increase faster than today, thereby creating an attractiveness for customers. this way of doing business.

2. Difficulties and Challenges of Business Activities on Mobile Platforms

According to a survey by VECOM, the good application of mobile platforms is still limited to large enterprises with scale, strategy and resources. In general, in the whole country, the majority of businesses, especially small and medium-sized enterprises, are still not really ready for this change.

The results of the national survey also show that, in 2018, about 17% of businesses said that they had a mobile version of their website, this percentage has not changed much in the past 3 years. Similarly, with the percentage of businesses having a mobile website, the percentage of businesses having a mobile sales application in 2018 also accounted for only 14% and did not change much compared to previous years. Besides, 75% of surveyed businesses with sales applications on mobile platforms said that Android is still the platform they are most interested in investing in, developing sales applications, followed by IOS (45%) and Windows (45%), these figures are similar to 2017's rate (Android: 71%, IOS: 43% and Windows: 40%). Notably, the average time of customer retention when accessing an e-commerce website with a mobile version or a sales application in 2018 is still not high. This reflects how attractive, as well as convenient, the mobile versions have not really attracted customers. Accordingly, 18% of businesses participating in the survey said that the average stay time is over 20 minutes, the majority of customers still visit from 5 to 10 minutes (accounting for 39%) and less than 5 minutes (accounting for 28%). .

Of the businesses that participated in the survey with a mobile website or mobile app, 43% allowed shoppers to complete the entire shopping process on a mobile device; 31% of

businesses said that they have implemented promotions specifically for customers using mobile devices to buy goods/services, and 45% of businesses said that they received orders through sales apps on mobile devices. mobile device. These indicators have not changed much in the past 3 years. Many businesses are losing sales just because they haven't focused on improving the customer's shopping experience, through the process of optimizing for mobile conversions.

According to VECOM, at present, the legal framework for all forms of business in the digital age, including those on mobile platforms, is still incomplete and incomplete. For example: In Vietnam today, there are quite a few legal documents on personal information protection such as: Civil Code, Penal Code, Law on Information Technology, Law on Cyber Information Security; guiding regulations related to e-commerce, sanctioning administrative violations in the fields of post, telecommunications, information technology... However, the status of collection, use, distribution, trading Illegal trading is still common, reducing consumers' trust in e-commerce business, including business on mobile platforms.

3. Theories Related to the Intention to Accept Mobile Commerce

3.1. Related Concepts

Mobile Commerce:

Mobile commerce (Mobile commerce, M-commerce) is the use of wireless terminal devices, such as mobile phones, smartphones, and PDAs, together with a wireless network that can access information and conduct value-added transactions in the exchange of information, goods and services (Sadi and Noordin, 2011). Many researchers believe that there is a close relationship between mobile commerce and e-commerce. Mobile commerce is often understood as e-commerce on mobile platforms and is considered as a subset of e-commerce (Ngai and Gunasekaran, 2007). In mobile commerce, services are consumed on mobile devices through wireless network connections and telecommunications networks (Varshney and Vetter, 2002; Ngai and Gunasekaran, 2007). The mobile devices studied in this paper include smartphones, tablets and laptops (Leung and Antypas, 2001; Zhang et al., 2012; Nguyen Van Minh, 2016).

Mobile commerce services:

Mobile commerce services are classified by researchers according to many different points of view. According to Mahatanankoon et al. (2005), Ngai and Gunasekaran (2007), mobile commerce services include 4 components: (1) information services (using mobile devices to search for information), (2)) transactional services (B2C), (3) location-based services, and (4) entertainment services. Nguyen Van Minh (2016) does not group mobile commerce services, but thinks that the range of products and services of mobile commerce is very wide, including: mobile money transfer; Mobile ATMs; mobile ticketing; service coupons, coupons, loyalty cards; purchase and deliver content products; location services (provide local discounts, local weather); information services (news, stock prices, financial information, sports match results, traffic news, emergency alerts); mobile banking services; mobile brokerage; mobile auctions; mobile transportation brokerage, information browsing and mobile ordering services; mobile payments; Mobile marketing and advertising. Currently, businesses are very focused on retail transactions because this field is very developed in Vietnam. Therefore, the research paper focuses on studying the transaction service component of mobile commerce, with activities including: online shopping on mobile devices; look up bank account balances on mobile devices; money transfer via e-banking on mobile devices; pay commercial bills, electricity, water on mobile devices; recharge phone cards online on mobile devices; hotel reservations on mobile devices; Book flight tickets on mobile devices.

Behavioral intent:

The Theory of Reasoned Action (TRA) was developed by Ajzen and Fishbein in the late 60s of the twentieth century and extensively revised in the 1970s as one of the most important theories in the study of ideas. determine behavior. This theory shows that behavioral intention is the most important factor to predict consumption behavior (Actual Behavior). Behavioral intention is influenced by two factors: attitude and subjective norm. Then, Davis (1985) proposed the technology acceptance model TAM (Technology Acceptance Model) to explain the factors affecting technology acceptance and technology user behavior on the basis of TRA theory. The TAM model examines the relationship and influence of perceived ease of use and perceived usefulness factors on attitudes, thereby affecting the intention and behavior of accepting information technology. user. Intention is considered as a direct premise leading to technology use behavior in the TAM model. Research by Zhang et al (2012) also confirms that intention to use is a very important concept in the study of consumer behavior and is also the most important factor determining actual consumption behavior. Therefore, this study focuses on examining the factors affecting the behavioral intention of consumers to use mobile commerce.

Based on the results of previous studies on the behavioral intentions of customers and the actual situation in the study area, this study proposes 8 factors affecting the intention to use TRADE DI services. MOTION. In which, the study inherits 3 traditional elements of the TRA model and the TAM model: Perceived usefulness, perceived ease of use, and subjective norms; At the same time, this study adds 5 new factors, namely cost perception, perception of trust, perception of risk, perception of innovation, and adaptability to consider the influence of these variables on secondary variables. belonging is the intention to use the mobile commerce service.

3.2. Research Methods

The survey subjects of this study are consumers living and working in Hanoi, provided that consumers use mobile devices (in this study, including smartphones, tablet). Analytical data were collected by non-probability sampling method according to convenience sampling method during the period from 12/2021 to 3/2022. According to Zikmund et al. (2013), this sampling method is suitable for studies on differences in consumer behavior and suitable for exploratory research using factor analysis. According to many researchers, the larger the sample size, the better (Nguyen Dinh Tho, 2011). Hair et al. (2010) suggested that to use exploratory factor analysis (EFA), the sample size should be at least 50, preferably 100, and the observation/measurement ratio 5:1. The proposed research model includes 36 observed variables that can be used in exploratory factor analysis. Therefore, the minimum sample size is 36 x 5 = 180. In fact, the study has conducted a survey of 400 consumers. After screening, there are 326 suitable questionnaires left for further analysis. Thus, the collected data ensures good implementation of the research model. To measure the research concepts in the model, a 5-point Likert scale is used ranging from 1 (Strongly disagree) to 5 (Strongly agree). The study used the method of testing the scale by Cronbach's Alpha coefficient, exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and SEM structural equation model.

4. Research Summary

This study aims to introduce a scale of factors affecting consumers' intention to use mobile commerce services in the research context in Vietnam. Research data is collected from 326 consumers living and working in Hanoi. Methods of testing the reliability of the scale by Cronbach's Alpha coefficient, exploratory factor analysis (EFA) and CFA analysis and SEM structural model were used in the study. The research results show that there are 8 factors affecting the intention to use mobile commerce services of Hanoi consumers: (1) Subjective standards, (2) Perceived innovation (3) Receiving Perceived usefulness, (4) Perceived

credibility and (5) Perceived ease of use, (6) Adaptability, (7) Perceived risk, (8) Perceived cost. In which, flexibility is the factor that has the strongest influence on intention to use mobile commerce services. Academically, the study has contributed to the introduction of a scale to measure the intention to use mobile commerce services in Vietnam. Besides, this study confirms the need to extend the theory of rational action TRA and the traditional TAM technology acceptance model in research on technology. At the same time, this study provides some managerial implications to help telecommunications network operators, mobile commerce service providers, and marketing professionals develop marketing strategies and improve mobile commerce services.

References

[1] Ajzen, I., & Fishbein, M. (1975). Belief, attitude, intention and behavior: An introduction to theory and research, Reading, MA: Addison-Wesley.

[2] Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. Psychological Bulletin, 103(3), 411.

[3] Chong, A. Y. L. (2013). A two-staged SEM-neural network approach for understanding and predicting the determinants of m-commerce adoption. Expert Systems with Applications, 40(4), 1240-1247.

[4] Chong, A. Y. L., Chan, F. T., & Ooi, K. B. (2012). Predicting consumer decisions to adopt mobile commerce: Cross country empirical examination between China and Malaysia. Decision Support Systems, 53(1), 34-43.

[5] Chong, A. Y. L., Darmawan, N., Ooi, K. B., & Lin, B. (2010). Adoption of 3G services among Malaysian consumers: an empirical analysis. International Journal of Mobile Communications, 8(2), 129-149.

[6] Consumer Barometer (2016). The Online & Multiscreen World (VN).

[7] Department of E-commerce and Information Technology (2014). Mobile e-commerce report 2014.

[8] Department of E-commerce and Information Technology. (2015). Vietnam e-commerce report 2015.

[9] Dai, H., & Palvi, P. C. (2009). Mobile commerce adoption in China and the United States: a cross-cultural study. ACM SIGMIS Database, 40(4), 43-61.

[10] Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. Management Science, 35(8), 982-1003.

[11] Davis, F.D. (1985). A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results. Doctoral Dissertation: MIT Sloan School of Management, Cambridge, MA.

[12] Economides, A.A. & Grousopoulou, A. (2008). Use of mobile phones by male and female Greek students. Int. J. Mobile Communications, 6(6), 729-747.

[13] Faziharudean, T. M., & Li-Ly, T. (2011). Consumers' behavioral intentions to use mobile data services in Malaysia. African Journal of Business Management, 5(5), 1811.

[14] Gunawardana, K.D., & Ekanayaka, S. (2009). An Empirical Study of the Factors That Impact Medical" Attitude toward the Intention Representatives to Use M-Learning for Career Development. Sasin Journal of Management, 15(1).

[15] Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis. 7th ed., Prentice Hall, Inc.

[16] Hong, S.J., Thong, J.Y.L., Moon, J.Y. & Tam, K.Y. (2008). Understanding the behavior of mobile data services consumers. Info. Syst. Front, 10, 431-445.

[17] Huang, J.H., Lin Y.R., Chuang C.T. (2007). Elucidating user behavior of mobile learning-a perspective of the extended technology acceptance model. The Electronic Library, 25(5), 585–598.

[18] Kalinic, Z., & Marinkovic, V. (2015). Determinants of users' intention to adopt m-commerce: an empirical analysis. Information Systems and e-Business Management, 1-21.

[19] Kim, C., Mirusmonov, M., & Lee, I. (2010). An empirical examination of factors influencing the intention to use mobile payment. Computers in Human Behavior, 26(3), 310-322.

[20] Leung, K., & Antipas, J. (2001). Improving returns on m-commerce investments. Journal of Business Strategy, 22(5), 12-12.

[21] Luarn, P., & Lin, H. H. (2005). Toward an understanding of the behavioral intention to use mobile banking. Computers in Human Behavior, 21(6), 873-891.

[22] Mahatanankoon, P., Wen, H. J., & Lim, B. (2005). Consumer-based m-commerce: exploring consumer perception of mobile applications. Computer Standards & Interfaces, 27(4), 347-357.

[23] Mallat, N., Rossi, M., Tuunainen, V. K., & Öörni, A. (2009). The impact of use context on mobile services acceptance: The case of mobile ticketing. Information & Management, 46(3), 190-195.

[24] Throne, E. W., & Gunasekaran, A. (2007). A review for mobile commerce research and applications. Decision Support Systems, 43(1), 3-15.

[25] Nguyen Dinh Tho (2011). Research methods in business. Social Labor Publishing House.

[26] Nguyen Van Minh (2016). The main application trends in modern e-commerce. Journal of Commercial Science, No. 89 + 90, 1+2/2016.

[27] Nunnally, J. C. (1978). Psychometric theory.

[28] Park, E., & Joon Kim, K. (2013). User acceptance of long-term evolution (LTE) services: an application of extended technology acceptance model. Program, 47(2), 188-205.

[29] Peterson, R. A. (1994). A meta-analysis of Cronbach's coefficient alpha. Journal of Consumer Research, 21(2), 381-391.

[30] Pham Thi Minh Ly and Bui Ngoc Tuan Anh (2012). Relationship between cognitive factors and intention to use mobile commerce services in Ho Chi Minh City. Economic & Development Review, 184, 37-45.

[31] Sadi, A. H. M., & Noordin, M. F. (2011). Factors influencing the adoption of M-commerce: An exploratory Analysis.

[32] Schierz, P. G., Schilke, O., & Wirtz, B. W. (2010). Understanding consumer acceptance of mobile payment services: An empirical analysis. Electronic Commerce Research and Applicatio.