Acceptance of E-Wallet Among Mobile Phone Users in China

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ABSTRACT

Coronavirus, also known as COVID-19, has compelled and encouraged the global public to avoid all activities involving physical contact, including money transactions. During the COVID-19 pandemic, the use of e-payment activities has increased due to people's concern that direct traditional payment methods could transmit the virus through physical currency, hence relieving consumers of the need to carry cash. Using a well-established unified theory of adoption and use of technology, this study seeks to identify the factors that influence the deployment of cashless payment among China students. This study contributes to the existing body of knowledge by investigating the influence of perceived danger, perceived usefulness, perceived technology security, hedonic incentive, and government backing on the adoption of e-wallets during the COVID-19 outbreak. Respondents from universities have been sent online questionnaires using the convenience sample technique. As a result, the study discovered that the effectiveness of e-wallet and e-payment among university students, as well as the relationship between social influence and innovativeness, are positively associated with the adoption of cashless payments.

Keywords: E-wallet, COVID-19, Perceived risk, Perceived Usefulness, Perceived Technology Security, Hedonic motivation and Government support

I. INTRODUCTION

In the present time, the development of technologies has evolved rapidly. The coronavirus outbreak has affected all industries including education industries that has caused the public to stop face to face activities in order to prevent the spread of coronavirus. According to the (World Health Organization, 2020), Coronavirus vigorously spreads out through tiny liquid subatomic particles when people who are infected with coronavirus cough, sneeze, and speak. The outbreak has given an impact to the world where it forces most industries to forge ahead on their payment systems where they have introduced the online payment systems almost totally as the public believe that the risk of coronavirus can be transmitted through physical money and to taking an extra safety measure.

Online payment or E-wallet has already existed over decades and has been evolving ever since. E-wallet is known as an application that stores users' debit and credit card details that allow consumers to make transactions using advanced devices such as smartphones and electronic devices without worrying about using physical money in numerous payment methods and webpages. Not only offering a convenient way for its users, e-wallet also makes sure that consumers experience maximum safety features as for instance face or fingerprint scanner and PIN code while doing the transactions with the biometrics systems and data encryptions. Moreover, consumers' details will not be revealed while making transactions as all information will be saved via a third-party provider and secured by passwords. There are varieties of risks regarding online payment and e-wallet as a case in point the risk of information security, application performance and the financial system as has been proven from former research. Despite the risks of online payment and e-wallet, the verdict of the risk of the research may be vary as it related to the current situation, pandemic COVID-19 whereby most consumer undoubtedly use online payment and e-wallet to prevent the spreadness of the coronavirus from the use of physical money. The consequences of the former research concerning the acceptance and adoption of online payment and e-wallet are not quite clear.

As mentioned by (Lim, 2020), China government aims to urge the citizens to use e-wallet in the view of the fact that their goals are to achieve a cashless society by just using smartphones and electronic devices. The e-wallet initiative has now been supported by the government to help prevent the spreadness of the coronavirus. The e-wallet initiative has made a significant contribution in encouraging the public to use e-wallet and a way to achieve goals on going cashless society. Owing to the fact that the unclear amount of research relate to the e-wallet acceptance and adoption in China, the current research provides the impact of performance expectancy, facilitating condition, social influence, innovativeness, perceived technology security and hedonic motivation on adoption of e-wallet during the COVID-19 outbreak in China that has been conducted through online questionnaire among universities students.

II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

A. Correlation of COVID-19 and e-wallets in China

COVID-19 are lethal not just to individuals, but also to businesses and economics. The globe is bracing for a massive loss because of epidemics and pandemics (Fan, Jamison, and Summers, 2018). Consumer behaviour is also altered by this COVID-19 pandemic. People are confined to their homes due to physical distancing as well as a self-quarantine regime. Some people attempted to do everything they could without making physical contact. Some refuse to shop at supermarkets and shopping malls. After the Movement Control Order (MCO) was implemented in China, many merchants, transportation services, and food vendors encouraged customers to use cashless payments or e-wallets to make purchases.

China's transition to a cashless society is viewed because of legislative orientation along with technological advancements that meet the needs of specific sectors of the economy (Kadar, Sameon, Din, & Rafee, 2018). The move away from cash is a social revolution, and we must be mindful that what succeeds in one place may not succeed in another owing to infrastructure (technology) and cultural variations (behaviour). E-wallets enable for a variety of transactions to take place without the use of cash, including such credit card purchases in physical stores or e-commerce websites. Digital financial transactions and bill payments are examples of e-wallets transaction activity.

B. Adoption of e-wallet

An e-wallet is a programme that stores a user's card details and enables them to do mobile transactions. E-wallet is currently among the most popular payment systems since electronic transactions utilising a digital wallet offer convenience, flexibility, and security (Uddin et al., 2014). E-wallets are also known for their revolutionary features including personalization and real-time interaction (Osakwe, et al., 2016). As the amount of contactless payment methods grows, e-wallet has already made a name for itself by offering a wide variety of facilities in the transportation industry, food delivery, and bill payment (Rosnidah et al., 2019). It is not just beneficial to purchasers; merchants are adopting e-wallet as a form of payment due to its quick transaction procedure, easy business banking, and lower labour costs (Hayashi et al., 2014). Users scan the (QR) code with their smartphone to verify the transaction, and this form of transaction is prevalent in physical stores (Lu, 2018). According to the research, the usage of an e-wallet by college students is mostly due to its adaptability, flexibility, and user-friendly transactions conducted via connected phones.

C. Perceived risk on adoption of e-wallets

The perceived risk in a retailing context is characterised as the feelings of uncertainty (Im et al., 2008). Perceived risk, as per the literature, has become a multi-dimensional model. It also has a number of variables that differ based on the products (or service) category (Kassim & Ramayah, 2015). As a result, using an e-wallet is indeed the safest way to avoid the possibility of spreading COVID-19. Using an e-wallet is one of the ways to prevent making physical contact. There are people who freak out to even touch things in public. In this case, they are worried and not confident about whether it is safe or not for them to touch and take the balance of the money from the seller. Thus, that is why some people would be more likely to adopt e-wallets in this pandemic of COVID-19. This is because it is convenient. As a result, the hypothesis is:

H1: Perceived risk influences the decision to use e-wallets in a positive manner

D. Perceived usefulness on adoption of e-wallets

Perceived usefulness refers to someone's belief that adopting a specific system may improve their career development (Ahasanul et al., 2020). Perceived usefulness can indeed be described as the level of trust that users have in the ability to enhance their efficiency by using a new style. Essentially, the e-wallet application is a powerful mode of payment that is suitable and following the Standard Operating Procedure (SOP) that have been implemented in our country during the pandemic of COVID-19. Furthermore, e-wallets are being used as an alternate financial tool to assist the governments in eliminating the potential of spreadness of COVID-19. Multiple findings suggest that perceived usefulness is a key determinant of desire for using e-wallets (Aji & Dharmmesta, 2019) and also in demonstrating why customers adopt an innovation of an application technology (Beldad & Hegner, 2017). Thus, it can conclude that the hypothesis is:

H2: Perceived usefulness influence the adoption of e-wallets in a positive way

E. Perceived technology security on adoption of e-wallets

Perceived technology security is the development of programs built to securely protect user data (Mahfuzur et al., 2020). Most research provides recommendations for emphasising different antecedents as well as devising effective strategies for influencing the acceptance of e-wallets (Mukhopadhyay, 2016; Ozturk, 2016). Market acceptance of e-wallets may be boosted by technological protection. Businesses would be able to use the knowledge to create products and services associated with the introduction of e-wallets if perceived technology protection is secure. As a result, the research hypotheses are put forth:

H3: Users' acceptance of e-wallets is positively influenced by their perception of technology security

F. Hedonic motivation on adoption of e-wallets

Hedonic motivation relates to a customer's willingness to accept emerging innovations and their enjoyment in doing so (Kim & Hall, 2019). Hedonic motivation is defined as the enjoyment and satisfaction of users derived from using technology, resulting in a pleasant feeling among them (Tamilmani, Rana, Prakasam, & Dwivedi, 2019). According to Boonsiritomachai and Pitchayadejanant (2017), the most significant parameter inspiring people to accept e-wallet is their hedonic motivation. Hedonic motivation has been identified as a significant influence for individuals in technological innovation as proved in research on mobile commerce (Zhang, Zhu, & Liu, 2012). We also conducted a survey to identify the impact of hedonic motivation on users' adoption of e-wallets. As a result, it is leading to the following hypothesis:

H4: Users' willingness to accept e-wallets is positively influenced by hedonic motivation

G. Government support on adoption of e-wallets

User adoption of technologies is affected by various factors, such as by the internal factor, perceived risk and the external factor, government support (Haderi, 2014; Hai & Kazmi, 2015). When it comes to online payments, government support plays a big part in deciding whether or not people choose to use it. Government support for e-wallets may come in the form of internet services, regulatory programs, accessibility, and guaranteeing of security in online payments. WHO encouraged people to use contactless payments to reduce bodily contact in order to "flatten the curve" (Brown, 2020; Huang, 2020). Throughout the battle against SARS-Cov2, the governments' support towards e-wallet payments became beneficial. As a result, when people perceive government support, people are more likely to trust and use e-wallets. Therefore, it can be hypothesized that:

H5: Government support has a positive impact on e-wallet adoption

III. RESEARCH METHOD

A. Data collection and sampling technique

The researcher will carry out a survey to determine the factors that inspire people to adopt various e-wallets platforms and to analyze the factors influencing the adoption of e-wallets. This study used a five-point Likert scale, the study sought to determine the respondents' rate of agreement/disagreement to assess the effect of behavioral factors (e.g., perceived risk, perceived usefulness, perceived technology security, and hedonic motivation) on the adoption of e-wallets in China. The survey was conducted among university students in China who mostly are up to date with new technology inventions and would rather

choose the simplest way to make a payment. The sample of this study also were categorized in adulthood, who tend to love shopping. Due to this Movement Control Order (MCO) that was implemented in China during this pandemic COVID-19, those who love shopping tend to use online platforms to shop. Some of them may use e-wallets. Thus, the researcher chose university students as the sample respondents. A convenience sampling technique is used in this study by distributing online questionnaires among them. The researcher distributed this questionnaire to our friends who are in the same and different universities. The respondent reached 152 students coming from 22 different universities and colleges.

B. Item measurement

Most of those items used to evaluate the structures in this research came from existing scales tests. Section A asked about demographic information such as age, gender, race, which universities are they from, level of education, year of education, a question on whether they use e-wallet or not and payment method they are currently in use. On the other hand, Section B consisted of five-point. Likert scale survey questions to evaluate university students' acceptance towards e-wallets. In this study, nine items are implemented to evaluate the perceived risks (4 items) and perceived usefulness (5 items). For hedonic motivation (3 items) and government support (4 items), a sum of seven items is used. Finally, another three items are used to evaluate the adoption of e-wallets. Table 1 shows the items and measurements in detail.

Items
I am worried to get infected by coronavirus when using physical cash
I am afraid to get infected by coronavirus when using physical cash
I am not comfortable making payment using physical cash
I am worried there is a coronavirus droplet in physical cash
During COVID-19 pandemic, using e- wallet is effective
During COVID-19 pandemic, using e-wallet makes payment easier
During COVID-19 pandemic, using e- wallet may increase productivity
During COVID-19 pandemic, using e- wallet may improve performance
During COVID-19 pandemic, e-wallet are beneficial for my jobs
I feel completely secure operating with e-wallet
E-wallet is a secure means for sharing sensitive information
My safety concerns are only with online payment site
Using e-wallet is fun
Depending on cash to make a payment is stressful
E-wallet makes me feel good
During COVID-19 pandemic, the government encourages payment transaction using e-wallet

During COVID-19 pandemic, the government ensures e-wallet server facilities
During COVID-19 pandemic, the government encourages payment innovation via e-wallet
During COVID-19 pandemic, the government controls e-wallet payment operations
I have been using cashless payment methods for some time now during COVID-19
I am likely to increase the use of cashless payment in my daily life during COVID-19
I prefer using e-wallet for payment transactions during COVID-19

Table 1: Items measurement

IV. DISCUSSION

The research emphasizes the acceptance and adoption of e-wallet in China. The beginning of the research questions is determining the demographic of the collected data sample, followed in order by the age and gender of the respondents. In addition, the questions also will compare the results of the gender and universities based on the variable. The final questions are to foreshadow which gender and educational level could influence the acceptance and adoption of e-wallet in China.

Statistics show that the adoption of e-wallet has been evolving and directly determined by perceived risk, perceived usefulness, perceived technology security, hedonic motivation and government support. Despite their potential, e-wallets have yet to gain widespread acceptance in emerging markets, particularly in China. The findings reveal that the COVID-19 epidemic has made China citizens worried of contracting SARS-Cov2, which might be transferred through physical money. As a result of this risk, the WHO urged and urged people to utilise digital payment wherever possible (Brown, 2020). The findings both confirmed and contradicted prior findings. Thus, the primary goal of this research is to create a conceptual model that explains why customers use an e-wallet to save time and complete tasks more rapidly. Specifically, the findings show that all the criteria have a positive impact on e-wallet adoption.

According to the study, the suggested model is remarkably combined. This model showed how customers' e-wallet adoption is shaped statistically. In fact, the conceptual model incorporating these essential elements has high explanatory power for all variables in predicting customers' adoption of e-wallet. According to the prior research, customers will be more inclined to accept e-wallet if their perceived values are increased. Hence, the findings of hedonic motivation and government support have a statistically larger significant impact on adoption of e-wallet. Perceived technology security also has a strong significant influence on the adoption of e-wallet. Additionally, perceived usefulness and perceived risk are significantly related to the adoption of e-wallet. Consumers' adoption of e-wallets is influenced by all these variables. The study of the structural interactions between the important components will offer policymakers with useful information for increasing consumer acceptance of e-wallet systems in China.

V. RECOMMENDATION AND CONCLUSION

This study has limitations as it focuses entirely on how independent and dependent structures interact. Customers' e-wallet systems may be assessed using the mediating and moderating influence of manufacturing services, as well as industry performance, in future study. The previous research was conducted using structured questionnaires and a likert scale. Future research may combine survey and interview approaches to collect customers' impressions of the cashless society and boost the study's robustness. The data for this study was gathered from city and village residents. Although an e-wallet may not perform

as effectively in rural regions as it does in cities, where people are more dependent on cash and have poorer financial literacy, further research with rural individuals may be undertaken to better understand their perspectives on e-wallet usage.

However, one of the study's limitations is that our model does not include the notion of security assurance or attitudes that influence consumer ethical behaviour. During the COVID-19 epidemic, this research aimed to capture the comfortability and security concerns of e-wallet users. The significance of this study was tested using a unique multi-method technique that used bootstrapping in addition to the traditional p-value technique. Hence, regardless of the forced adoption of e-wallets due to the COVID-19 epidemic, hedonic incentive and government backing are dominating and, on the rise, according to this report. The findings of this study are partially consistent with those of prior studies. Next, the researcher often employs at least two types of statistical software for a comprehensive statistical analysis approach while doing statistical testing. However, it's important to note, nevertheless, that the best statistical software and accurate statistical analysis are greatly impacted by the researchers' study aims and research questions. This is a requirement for conducting any statistical analysis. Choosing the correct statistical analysis aids researchers in obtaining reliable and robust data that may be used to explain the success of study goals.

Moreover, by using multi-method research, this study examines customers' intentions to utilize e-wallets during the COVID-19 epidemic in China. On the adoption of e-wallets, the direct and indirect impacts of perceived risk, perceived usefulness, perceived technology security, hedonic motivation, and government support are also investigated. Perceived risk, perceived technology security, and perceived usefulness all influenced the desire to use e-wallets during the COVID-19 epidemic, according to this study. The impact of hedonic motivation and government support on the desire to use e-wallets is totally mediated by perceived usefulness, according to this study. In a nutshell, this study looks at the viewpoints of customers on the use of e-wallets to make transactions cheaper, simpler, quicker, and safer. Future generations of young people, as enterprises and consumers with digital environmental awareness and knowledge, will play an increasingly important role as developing countries progress toward becoming developed ones. Finally, future generations will utilize cashless transactions to buy items and even repurchase them, as this study shows the positive effects of perceived risk, perceived utility, perceived technological security, hedonic incentive, and government backing on e-wallet intention and adoption.

REFERENCES

Hendy Mustiko Aji, Izra Berakon, & Maizaitulaidawati Md Husin. 2020. COVID-19 and e-wallet usage intention: A multigroup analysis between Indonesia and Malaysia. Cogent Business & Management, 7(1), 1-16, https://doi.org/10.1080/23311975.2020.1804181

Mahfuzur Rahman, Izlin Ismail, Shamshul Bahri. 2020. Analysing consumer adoption of cashless payment in Malaysia. Digital Business, 1(1), 1-11. https://doi.org/10.1016/j.digbus.2021.100004

Md Wasiul Karim, Ahasanul Haque, Mohammad Arije Ulfy, Md Alamgir Hossain, & Md Zohurul Anis. 2020. Factors Influencing the Use of E-wallet as a Payment Method among Malaysian Young Adults. Journal of International Business and Management, 3(2), 1-11. https://doi.org/10.37227/jibm-2020-2-21

World Health Organisation, 2020 December 13. Coronavirus disease (COVID-19): How is it transmitted? Retrieved from World Health Organization: https://www.who.int/news-room/q-a-detail/coronavirus-disease-covid-19-how-is-it-transmitted#:~:text=%E2%80%A2%20Current%20evidence%20suggests%20that,nose%2C%20or%20mouth

Wood, M. 2005. Bootstrapped Confidence Intervals as an Approach to Statistical Inference. Sage Publications. 8(4), 454-470. Retrieved from https://journals.sagepub.com/doi/pdf/10.1177/1094428105280059