Factors Affecting Users' Behavioral Intention Toward Touch 'N Go E-Wallet in Malaysia

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Copyright@2022 owned by Author(s). online transactions or physical payment. Published by IJABIM We investigated whether perceived



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ABSTRACT

As the outbreak of COVID-19 progresses to the endemic stage, Malaysians are getting used to the norm of going cashless to purchase goods and services, whether through online platforms or physical stores, to reduce contact with others. Hence, Touch 'n Go has garnered a significant number of users since the pandemic. While it is convenient for users to make payments, concurrently, it may pose a risk with many factors that may influence the users' loyalty to continue using online transactions. This paper aims to study the behavioral intention of the users' loyalty to Touch 'n Go E-wallet, given different payment options which are We investigated whether perceived usefulness, ease of use, trust, security, and social influence will affect the users' loyalty to continue using the application. Responses were collected from 150 Touch 'n Go E-wallet users' through an online survey, whereby the data will be analyzed using SPSS. Implications and recommendations to enhance users' loyalty, as well as increase acceptance to digital transformation, were presented.

Keywords: Behavioural Intention, Digital Wallet, Perceived Ease-Of-Use, Perceived Security, Perceived Trust, Perceived Usefulness, Social Influence, Touch 'n Go (TNG)

INTRODUCTION

The opportunity in e-commerce and the growth of payment systems flourished with the rapid advancement of technology and the immense usage of smartphones. The emergence of intelligent devices to make payments has gradually caused many to adapt to online payment for its efficiency and convenience for buyers and sellers compared to traditional physical cash or bank payment (Alam, Awawdeh, & Muhamad, 2021). Consumers shifted from traditional to online purchasing in the midst of the pandemic (Aryani et al., 2021). Thus, flexible payment methods through advanced applications such as e-wallets were implemented. An e-wallet (electronic wallet), a digital wallet, refers to an electronic card or financial transaction application using mobile devices to make online payments. It is a prepaid account in which users store funds for online transactions in the future (The Economic Times, 2022).

Malaysia is one of the many countries to keep up with the digital transformation, especially during the pandemic that has now evolved to an endemic. Among the major e-wallet providers used by Malaysians are Touch 'n Go (TNG) e-wallet, GrabPay, BigPay, WeChat Pay, and MAE (Oppotus, 2020). According to Deloitte's survey, Malaysia is one of the leaders in South Asia and Southeast Asia leading a "digital life", whereby one of the significant developments of digital maturity. The data indicated that TNG has the highest number of users, with 82.41% in the e-wallet application category (Deloitte, 2020). TNG is a contactless smart card with over 16 million users today. In 1996, Teras Teknologi Sdn. Bhd. developed TNG as Rangkaian Segar Sdn. Bhd., functioning as a card-based electronic toll payment system. In 2017, the service was developed with the collaboration of Ant Financial to form TNG Digital and launched the TNG e-wallet application for multi-purpose payments (Touch 'n Go, 2022).

Many SMEs stopped operations as the pandemic posed various obstacles, specifically in Malaysia (Hu & Kee, 2022). The pandemic and the government's Movement Control Order (MCO) have tremendously impacted many sectors since 2020. This includes the economic and financial market, where the method of consumers performing purchasing and payment transactions is affected (Aji, Berakon, & Husin, 2020). Nevertheless, the pandemic is an ambiguous sword (Kee et al., 2021), and it has encouraged the usage of cashless transactions. Bank Negara Malaysia reported a significant increase in electronic money (card-based and network-based, including Touch 'n Go) usage in the first half of 2020, with about 95.2 million and 119.5 million users in April 2020 and April 2021, respectively (Bank Negara Malaysia, 2021). Thus, the intention of users to use TNG e-wallet was further instigated by the circumstances for convenient payment methods while adhering to social distancing and reducing physical contact.

Kee et al. (2022) examined convenience, product features, trust, and satisfaction of consumers toward the intention to utilize the Touch' n Go e-wallet. This paper inquires about the relationship between perceived usefulness, ease of use, security, trust, social influence, and behavioral intention to continue using TNG e-wallet in Malaysia. As Malaysia leaps into the financial technology revolution by leading the nation to a cashless society, users have different perspectives on the continuous usage of the TNG e-wallet. Although many have converted to e-wallet users, some users may not be ready to fully embrace the advancement of technology due to many influencing factors—users' different intentions. Hence, our paper aims to identify the key factors influencing users' intentions.

LITERATURE REVIEW

Perceived Usefulness (PU)

Perceived usefulness is one of the most substantial original factors of new technology adoption, according to Davis's Technology Acceptance Model (TAM) (Davis, 1986). It refers to the productivity and effectiveness of the information system as well as users' belief that utilizing the system can improve their productivity (Tahar, Riyadh, Sofyani, & Purnomo, 2020). It fundamentally expresses a user's cognitive expectation of a system's performance. Users believe that employing the system will allow the users to reach their desires of finance and lifestyle while promoting the efficiency of completing various transactions (Yang, Mamun, Mohiuddin, Nawi, & Zainol, 2021). Therefore, users will increase the usage level if they believe the technology used brings benefits. The study by Karim, Haque, Ulfy, Hossain, and Anis (2020) stated that perceived usefulness is a significant positive contributing factor to users' behavioral intention (BI) to use e-wallets. Thus, we proposed the first hypothesis:

H1: Perceived Usefulness positively influences behavioral intention.

Perceived Ease of Use (PEoU)

Besides perceived usefulness, perceived ease of use is also one of the most crucial original components in the acceptance of new technology (Davis, 1986). Perceived ease of use refers to how users feel that employing a particular system that requires minimum effort (Davis, 1986). The more users believe a system is simple to employ, the more likely they will utilize it (Tahar et al., 2020). It is vital to encourage users to accept newer technology. Therefore, technology is crucial to be easy to use because the complication of the system deters people from using it. Perceived ease of use has shown a significant impact on the intention to use e-wallets (Effendy, Hurriyati, & Hendrayati, 2021). This is further supported by the research of Alwi, Salleh, Alpandi, Ya'acob, and Abdullah (2021), that users' intentions to adopt the e-wallet are affected by perceived ease of use. Yo et al. (2021) underlined a link between perceived ease of use and customer satisfaction. Therefore, we propose a positive link should exist between perceived ease of use and behavioral intention. The second hypothesis is:

H2: Perceived Ease of Use positively influences behavioral intention.

Perceived Security (PS)

It refers to the application provider's perceived suitable activities to protect shared information from security breaches over the mobile phone (Balapour, Nikkhah, & Sabherwal, 2020). From the users' perspective, perceived security is related to their perceptions of the purpose and control of their data on an online platform (Tahar et al., 2020). Users are more predisposed to shun a system if they believe it poses a significant risk, particularly in terms of security. According to the research of Vishal and Avinash (2020), security is one of the most significant aspects influencing the intention to use e-wallets. E-wallets have grown in popularity; however, the public still lacks awareness and fears making online transactions due to security concerns (Marimuthu & Roseline, 2020). Users will feel safer using the e-wallet if there are technologies to secure payment systems from undesirable actions. As such, the following hypothesis is developed: H3: Perceived Security positively influences behavioral intention.

Perceived Trust (PT)

According to Roger, James, and David (1995), trust is defined as the readiness of a party to entrust the acts of other parties with the belief that the other party would take actions that are essential to the trustor, disregarding the trustor's ability to control or monitor the other party. In connection with technology acceptance, perceived trust is indispensable in determining the likelihood of technology adoption (Singh & Sinha, 2020). Perceived

trust refers to users' perceptions of an e-wallet technology's trustworthiness with the service provider's privacy and security rules. Perceived trust is a driving force behind the success of various new technologies (Shane, Chan, & Mohan, 2022). Users' confidence in the service provider's capacity to deliver services according to consumer expectations is inextricably linked to trust. Users will constantly and continuously employ the e-wallet application once they trust the system or service provider. Prior research revealed that perceived trust has a substantial positive relationship with behavioral intention to use the e-wallet (Phuong et al., 2020). The hypothesis can be formed below: H4: Perceived Trust positively influences behavioral intention.

Social Influence (SI)

As stated by Fishbein and Ajzen (1975), the perception of social pressure on one's intention to be in an incident is social influence. It deals with the degree to which users believe other people should adopt and utilize new technology (Chyntia & Raden, 2020). The source that impacts an individual the most is the close social circles and bonded communities, such as family members and close friends. Hence, an individual will have a higher interest in using a certain technology if others in the social circles use it. Social influence can lead to technology adoption. Past studies examined the relationship between social influence and users' intention to use the e-wallets. Social influence significantly impacts the adoption of e-wallets, and users' behavioral intention to use the e-wallet is positively impacted by social influence (Hartini, Cheong, & Yahaya, 2021). Hence, the following hypothesis is proposed:

H5: Social Influence positively influences behavioral intention.

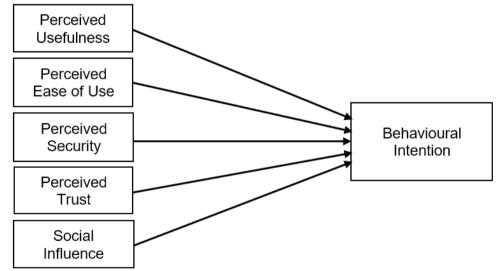


Figure 1. Research Model

The research model of the study is shown in Figure 1. A total of five hypotheses were formulated based on the past literature review.

RESEARCH METHOD

The targeted respondents were users of all ages who experienced the usage of TNG ewallet for online transactions in Malaysia. The survey's sample size is 150 users in Malaysia. The data were collected using an online survey via Google Form distributed to our targeted respondents across social media platforms. The available period for the survey lasted from 25th April 2022 until 10th May 2022. All data collected were compiled, and the statistics were processed using the IBM SPSS Statistics software. The

consistency and reliability were assessed using Alpha Cronbach. Alpha Cronbach's value of 0.7 or greater shows its consistency in an acceptable range.

To measure the variables, we utilized an eight-section questionnaire survey. The survey measured behavioral intention using a 5-point Likert scale of 1 (Strongly Disagree) to 5 (Strongly Agree). All measures can be referred to in Table 1.

Tab	le 1. Variable Measures			
Pe	rceived Usefulness			
1	TNG e-wallet makes my payment transactions efficient.			
2	TNG e-wallet offers a variety of services.			
3	I enjoy the product features of TNG e-wallet.			
4	TNG e-wallet provides a great service system.			
Pe	rceived Ease Of Use			
1	TNG e-wallet is convenient and user-friendly for me.			
2	The application is easy to learn to use for me.			
3	The transaction of the e-wallet payment method is easy to track.			
4	The functions of the e-wallet application are understandable.			
5	TNG most business merchants and e-commerce platforms accept the e-wallet.			
Pe	rceived Security			
1	I feel secure when using the TNG e-wallet application.			
2	I feel safe using TNG e-wallet online transactions compared to cash.			
3	I believe the TNG e-wallet can identify malware and take preventive measures in a timely manner.			
4	The TNG e-wallet application protects my privacy and personal details.			
Pe	rceived Trust			
1	I believe the TNG e-wallet application is trustworthy.			
2	I believe the terms and conditions of usage are clearly outlined on the TNG e- wallet platform.			
3	I believe the TNG e-wallet platform is reliable in terms of providing financial services.			
4	I believe that the TNG e-wallet platform puts the users' priority first.			
So	cial Influence			
1	People who influence my behavior think I should use the TNG e-wallet.			
2	People who are important encourage and recommend that I should use the TNG e-wallet.			
3	I use the TNG e-wallet because most people surrounding me use it too.			
Behavioral Intention				
1	I intend to use the e-wallet payment method in the future.			
2	I support the usage of e-wallet and online payment methods in the future.			

We applied single-statement items to analyze the respondents' demographics (age, educational level, ethnicity, gender, monthly household income, and occupation). We made a four-item scale to determine usefulness. The respondents were asked to share their views on how useful the e-wallet application in our daily lives is. A sample of the item includes "TNG e-wallet offers a variety of services".

We also used a five-item scale to measure the application's ease of use. Respondents were asked to express their user experience of the e-wallet application. An example of the item is "TNG e-wallet is convenient and user-friendly to me". In addition, we developed a four-item scale to assess the security of the application, showing respondent opinion on how secure the e-wallet application is. An example of the item is "I feel secure when using the TNG e-wallet application".

We used a four-item scale to measure the trustworthiness of the application, showing respondent views on how trustworthy the e-wallet application is. An example of the item is "I believe the TNG e-wallet application is trustworthy". We created a three-item scale to assess social influence. Respondents shared their thoughts on whether surrounding people influenced them using the application. An example of the item is "I use the TNG e-wallet because most people surrounding me use it too".

We created a two-item scale to assess the users' behavioural intention toward the continuous usage of the TNG application. Behavioral intention is an individual's intended subjective probability within a period of time (Ajzen, 1988). Consequently, it leads to how an individual behaves in the future (Fishbein & Ajzen, 1975). The scale items are based on the intention to use the e-wallet application as a payment method and support for using e-wallet and online payment methods in the future.

RESULTS

Table 2. Respondents' Demography (N=150)				
Construct	Frequency	Percentage (%)		
Gender				
Male	73	48.7		
Female	77	51.3		
Ethnicity				
Malay	48	32		
Chinese	61	40.7		
Indian	40	26.7		
Others	1	0.7		
Age				
Age 10 - 25	107	71.3		
Age 26 - 41	19	12.7		
Age 42 - 57	20	13.3		
Age 58 - 76	4	2.7		
Educational Level				
Secondary School	2	1.3		
Diploma	7	4.7		
Bachelor's Degree	135	90		
Master's Degree	3	2		
PhD	3	2		
Monthly Household Income				
RM 4,850 and below (B40)	125	83.3		
RM 4,851 - RM 10,970 (M40)	22	14.7		
RM 10,971 and above (T40)	3	2		
Occupation				
Student	106	70.7		
Employed	41	27.3		

Unemployed	0	0
Retired	3	2

Table 2 presents the respondents' demographics. The respondents consist of approximately the same number of females and males (51.3% and 48.7%, respectively). For the ethnicity category, 40.7% are Chinese, 32% are Malay, 26.7% are Indian, and 0.7% are other ethnicities. Most of the respondents are between 10 to 25 years old. Over half of them have a monthly income of RM 4,850 and below (83.3%), and most are students (70.7%).

Table 3. Summary of Users' Behavioural Intention Towards Touch 'n Go E-wallet (*N*=150)

Variables How often do you use TNG e-wallet? 1-3 times per month 4-6 times per month 7-10 times per month 11 times and above per month What is the purpose of you using the TNG e-wallet application? E-wallet	Frequency 8 30 78 34	Percentage (%) 5.3 20 52 22.7
 1-3 times per month 4-6 times per month 7-10 times per month 11 times and above per month What is the purpose of you using the TNG e-wallet application? 	30 78 34	20 52
4-6 times per month7-10 times per month11 times and above per monthWhat is the purpose of you using the TNG e-wallet application?	30 78 34	20 52
7-10 times per month11 times and above per monthWhat is the purpose of you using the TNG e-wallet application?	78 34	52
11 times and above per month What is the purpose of you using the TNG e-wallet application?	34	
What is the purpose of you using the TNG e-wallet application?		22.7
application?		
E wellet		
E-wallet	150	100
Paying toll (RFID features and PayDirect)	135	90
Paying utilities bills	129	86
GO+ investment	22	14.7
GoPinjam	1	0.7
A+ rewards	70	46.7
How satisfied are you with the usage of TNG e-		
wallet?		
Very Dissatisfied	0	0
Dissatisfied	0	0
Neutral	7	4.7
Satisfied	47	31.3
Very Satisfied	96	64
I intend to use the e-wallet payment method in the		
future.		
Strongly Disagree	0	0
Disagree	0	0
Neutral	1	0.7
Agree	23	15.3
Strongly Agree	126	84
I support the usage of e-wallet and online payment		
methods in the future.		
Strongly Disagree	0	0
	0	0
Neutral	3	2
	24	16
Agree		82
wallet? Very Dissatisfied Dissatisfied Neutral Satisfied Very Satisfied I intend to use the e-wallet payment method in the future. Strongly Disagree Disagree Neutral Agree Strongly Agree I support the usage of e-wallet and online payment methods in the future. Strongly Disagree Disagree Neutral Agree Strongly Agree I support the usage of e-wallet and online payment methods in the future. Strongly Disagree Disagree Neutral	0 0 7 47 96 0 0 0 1 1 23 126 0 0 0 0 0 3 3	31 6 0 15 8

Table 3 presents the users' behavioral intention toward TNG for the 150 respondents. The majority use TNG e-wallet between 7 to 10 times per month (52%), followed by 34% of them who use the application more than 11 times per month. Among the purposes of

using the TNG e-wallet application, most respondents utilize the features of the e-wallet (100%), paying the toll (90%), and paying utility bills (86%). Most of the respondents are very satisfied (64%) with the usage of Touch 'n Go. The majority of the respondents strongly intend to use the e-wallet payment method in the future (84%) and strongly support the usage of e-wallet and online payment methods in the future (82%).

Variables	1	2	3	4	5	6
PU	.885					
PEoU	.670**	.872				
PS	.412**	.364**	.870			
PT	.323**	.227**	.374**	.781		
SI	.179**	.094	.361**	.363**	.832	
BI	.382**	.366**	.446**	.223**	.502**	.909
Number of Items	4	5	4	4	3	2
Mean	4.88	4.86	4.04	4.72	4.74	4.82
Standard Deviation	0.30	0.34	0.63	0.35	0.45	0.40

Table	4.	Descriptive	Analysis,	Cronbach's	Coefficients	Alpha,	and	Zero-Order
Correla	atior	าร						

Note: N=150; *p < .05, **p < .01, ***p < .001; Diagonal entries in bold indicate Cronbach's coefficient alpha.

Table 4 presents the descriptive statistics, reliability information, and zero-order correlations among the variables. All variables displayed good reliability, with the coefficient alpha ranging from 0.78 to 0.91. The Cronbach alpha for perceived ease of use ($\alpha = 0.872$), perceived security ($\alpha = 0.870$), perceived trust ($\alpha = 0.781$), and social influence ($\alpha = 0.832$) show a strong consistency among items in each variable, the values are between 0.78 to 0.87. The Cronbach alpha for perceived usefulness and behavioural intention were statistically significant to the items related to the variable since α is more than 0.9. The correlation coefficient for every relationship is positively related.

Variables	Beta			
PU	.125			
PEoU	.188*			
PS	.208**			
PT	089			
SI	.419***			
R ²	.399			
F Value	19.14			
Durbin-Watson Statistic	1.61			
N_{0} (n = 150; *n < 05; **n < 01; ***n < 001				

Note: N=150; *p < .05, **p < .01, ***p < .001.

Table 5 summarizes the regression analysis. PU, PEoU, PS, PT, and SI are the independent variables, whereas BI is the dependent variable. As shown in the table, the relationship between PEoU, PS, and SI positively correlated with BI with beta values of 0.188, 0.208 and 0.419, respectively. Among the variables, SI is the most significant toward BI. Thus, hypotheses H2, H3 and H5 were supported. Contrastingly, PU is not significant, while PT has a negative relationship and did not significantly affect users' behavioral intention toward TNG e-wallet in Malaysia. Thus, hypothesis H1 and H4 was not supported. SI showed the highest beta with 0.419, whereas PS obtained 0.208, and PEoU gained 0.188. The value of R² was 0.399, indicating that 39.9% of the variation in BI is related to PEoU, PS, and SI. It is proven that those three are the main factors that

affect and influence the behavioral intention of users toward the usage of TNG e-wallet in Malaysia.

DISCUSSION

Based on the study conducted, our analysis showed a significant and positive relationship between SI, PEoU, and PS with users' behavioral intention toward TNG e-wallet. Besides, PU does not have a significant relationship, whereas PT is also insignificant and has a negative relationship with users' behavioral intention in using TNG.

The study showed that social influence has a positive relationship and is the most significant factor influencing behavioral intention to use TNG e-wallet application. Based on the analysis, most respondents strongly agree that essential people such as family, friends, and other influential people have played a role in encouraging or recommending them to use the TNG e-wallet. This is further supported by Phan, Ho, and Le-Hoang's (2020) research, whereby social media strongly affects behavioral intention. During the early stage of usage, individuals are influenced by word of mouth, feedback, or recommendation from others, especially users with no prior experience with the application. As they trust the endorsement and persuasion of important people, they will try the application and gradually adapt to the advancement of technology. Moreover, individuals will find common ground and use the same e-wallet application to make online payments with long-term TNG e-wallet users.

The perceived ease of use of the TNG e-wallet has a significant positive impact on behavioral intention to continue using TNG e-wallet application. Most of the respondents stated that the application is understandable and easy to learn to use. Consumers prefer user-friendly applications making their transactions simpler and more convenient. An application with complexities and bugs will cause a bad impression and undesirable experiences. In contrast, a well-designed application can provide an excellent user experience, increase users' satisfaction and develop loyalty, thereby raising engagement. Hence, a long-lasting relationship can be established with users (Johnson, 2015). Thus, ease of use is crucial to navigating the application by leaving a smooth and efficient procedure for a seamless user experience. Consumers can effortlessly fulfill their goals through the TNG e-wallet application.

Next, as for perceived security, this study showed that it also positively and significantly correlated with the behavioral intention to continue using TNG e-wallet application. This is because consumers' apprehension about using an e-wallet derives from cybersecurity concerns. However, according to the cybersecurity experts interviewed by The Digital Edge, it is a myth that e-wallets have poor security (Tan, 2022). E-wallet providers in Malaysia must adhere to Bank Negara Malaysia's cybersecurity regulations. For instance, one-time passwords, PINs, and biometric verification are some security features available in e-wallets. Notably, the TNG e-wallet conforms to the Payment Card Industry Data Security Standard and operates under Personal Data Protection Act 2010 (Touch 'n Go, 2021). Besides, to detect and avert unauthorized transactions, it employs artificial intelligence. Consequently, most respondents feel secure using the TNG e-wallet application. They agreed that the application could detect malware, take preventive actions, and preserve their privacy.

Furthermore, the result has proven that perceived usefulness has an insignificant relationship with the behavioral intention to continue using the TNG e-wallet application. Most respondents concur that the e-wallet application provides a wide range of services

and a great service system for its self-efficacy. However, perceived usefulness does not significantly affect behavioral intention. This is in accordance with the research by Muchran (2015) about the acceptance of banking information technology. Although consumers benefit from the TNG e-wallet, customers will not necessarily use the application. This may be due to other reasons that may influence their decision, such as security concerns.

Lastly, the analysis also illustrates that perceived trust has a negative relationship and insignificantly influences the behavioral intention to keep utilizing the TNG e-wallet application. This is supported by Malonda, Tulung, and Arie's (2020) findings, showing that perceived trust does not significantly affect people's digital wallet usage. Most respondents believe that TNG e-wallet is a trustworthy application and is reliable for providing financial services. They clearly understand the guidelines or terms and conditions outlined. In fact, high security enhances the users' level of trust, which causes them to be more likely to use and continue using the application (Carlos, José & José, 2009). As most of them have a high level of trust, trust does not significantly affect their continuance usage of the application.

To remain relevant in the financial services and e-commerce market, different aspects should be considered to provide quality services for users and maintain their loyalty. TNG can strive for innovation and improvement in creating a more effective application.

To upgrade its security barrier, TNG should implement biometric authentication and identity-based encryption (IBE) in the e-wallet application system before approving a transaction, for instance, fingerprint authentication, facial recognition system, or other physical characteristics scan. The advantage of this automated safeguard is to recognize and verify the identity of each user, for every individual has a unique feature (Wayman, Jain, Davide, & Dario, 2005). Aside from making the payment process easier, it reduces the users' 6-digit PIN exposure. Besides, although TNG does utilize encryption, it can be improved further by using identity-based encryption (IBE). Both receiver and sender can verify their signatures or encrypt messages (Boneh & Franklin, 2003). With such measures taken, meticulous protection and integrity of information are ensured.

Furthermore, TNG should enhance its public relations and create a trustworthy application image. In 2018, Zeno Malaysia was appointed by TNG Digital to lead public relations, social media, and communication direction strategies for Touch 'n Go. They advocated the future of a cashless society in Malaysia through TNG e-wallet (Campaign Brief, 2018). To leverage the effect of this initiative, celebrities or industry players in the financial and banking sectors can be invited to represent and endorse Touch 'n Go. As these renowned personalities are well known among the public, their endorsement of the brand will increase the credibility of advertisements and improve marketing communication. Social influence will be reinforced as networks and awareness will be expanded to a wider range.

Finally, TNG should create a faster performance and flexible user experience. Potential methods such as digital business-to-business (B2B) improve efficiency for e-wallet by providing quick access to funds and various alternatives through virtual cards, wire transfers, cheques, and others. Transaction methods can be expanded and create flexibility in payments. Instead of requiring users to pay in full for a product or service, merchants can apply for credit payments by extending the payment period or offering loans to users. In addition, more incentives can be provided to increase users' purchasing power, encouraging them to make more transactions. For instance, more

cashback, reward points, and attractive vouchers can be offered for users to enjoy (Forbes, 2022).

All in all, users' feedback and reviews are fundamental in becoming the communication bridge between the users and e-wallet providers. TNG will be able to analyze their users' needs, or issues faced. As such, improvement measures will be taken to manage the application and enhance users' satisfaction, consequently their loyalty to the continuance usage of the TNG e-wallet application.

CONCLUSION

In conclusion, the emergence of technology and opportunities in e-commerce has strengthened the adaptation to online payment compared to traditional physical payment. Many factors affect the users' usage of Touch 'n Go e-wallet application. The five key factors focused in the study were perceived usefulness, perceived ease of use, perceived security, perceived trust, and social influence. Based on our findings and analysis, social influence, perceived ease of use, and perceived security significantly affect the behavioral intention to use Touch 'n Go e-wallet application among users in Malaysia. Several implications were presented to enhance users' experience and loyalty toward the continuance usage of the Touch 'n Go application. These include enabling biometric authentication, enhancing public relations and credibility, and creating a faster user experience. By creating an efficient payment application, Touch 'n Go will be able to satisfy users' needs and fulfill expectations to have a more enjoyable user experience. Undoubtedly, it will deeply resonate with the users to continue staying loyal to using Touch 'n Go as their first choice among other e-wallet applications for online payments.

LIMITATION

There were certain limitations to the study. Firstly, the age population surveyed was relatively young, whereby most of the respondents were between 10 to 25 years old. Although Touch 'n Go e-wallet application usage is mainly dominated by the younger generation, the opinion of respondents aged 26 years old and above may be overlooked. Besides, the sample size of the study and survey may be too small. This could affect the relationship's significance between the data as a larger sample size will represent the distribution of the population.

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N/A

DECLARATION OF CONFLICTING INTERESTS

The authors declare that there is no conflict of interest.

REFERENCES

- Aji, H. M., Berakon, I., & Husin, M. M. (2020). COVID-19 and e-wallet usage intention: A multigroup analysis between Indonesia and Malaysia. *Cogent Business & Management*, *7*(1), 2–4. doi:10.1108/BPMJ-11-2020-0528
- Aryani, D. N., Nair, R. K., Hoo, D. X. Y., Hung, D. K. M., Lim, D. H. R., Chandran, D. A. P. R., Chew, W. P., & Desai, A. (2021). A study on consumer behaviour: Transition from traditional shopping to online shopping during the Covid-19 pandemic. *International Journal of Applied Business and International Management*, 6(2), 81–95. doi:10.32535/ijabim.v6i2.1170
- Ajzen, I. I. (1988). Attitudes, personality, and behavior. London: McGraw-Hill Education (UK).

International Journal of Applied Business and International Management (IJABIM) Vol.7 No.3, pp.108-120, December, 2022 E-ISSN: 2621-2862 P-ISSN: 2614-7432

https://www.ejournal.aibpmjournals.com/index.php/IJABIM

- Alam, M. M., Awawdeh, A. E., & Muhamad, A. I. (2021). Using e-wallet for business process development: Challenges and prospects in Malaysia. *Business Process Management Journal*, 27(4), 1–2. doi:10.1108/BPMJ-11-2020-0528
- Alwi, S., Salleh, M. N. M., Alpandi, R. M., Ya'acob, F. F., & Abdullah, S. M. M. (2021). Fintech as financial inclusion: Factors affecting behavioral intention to accept mobile e-wallet during Covid-19 outbreak. *Turkish Journal of Computer and Mathematics Education*, 12(7), 2130-2141.
- Balapour, A., Nikkhah, H. R., & Sabherwal, R. (2020). Mobile application security: Role of perceived privacy as the predictor of security perceptions. *International Journal of Information Management*, *52*, 2–3. doi:10.1016/j.ijinfomgt.2019.102063
- Bank Negara Malaysia. (2021). Electronic payments: Volume and value of transactions. Retrieved from
- https://www.bnm.gov.my/documents/20124/57659/02_epayment.pdf Boneh, D., & Franklin, M. (2003). Identity-Based encryption from the Weil pairing. *SIAM*
- Journal of Computing, 32(3), 1–2. Campaign Brief Asia. (2018). *TnG digital appoints Zeno Malaysia to develop overall* strategy for public relations and social media. Retrieved from https://campaignbriefasia.com/2018/06/25/tng-digital-appoints-zeno-mala/
- Carlos, J. R., José, J. G., & José, J. V. (2009). The importance of perceived trust, security and privacy in online trading systems. *Information Management & Computer Security*, *17*(2), 2–8. doi:10.1108/09685220910963983
- Chyntia, A., & Raden, A. R. (2020). A conceptual study on the factors influencing usage intention of e-wallets in Java, Indonesia. *International Journal of Accounting, Finance and Business (IJAFB)*, 5(27), 23–24.
- Davis, F. D. (1986). Technology acceptance model for empirically testing new end-user information systems: Theory and results. *Massachusetts Institute of Technology*, 15–26.
- Deloitte. (2020). "The Next Wave" Emerging digital life in South and Southeast Asia. Retrieved from

https://www2.deloitte.com/content/dam/Deloitte/cn/Documents/technologymedia-telecommunications/deloitte-cn-tmt-inclusion-en-200924.pdf

- Effendy, F., Hurriyati, R., & Hendrayati, H. (2021). Perceived usefulness, perceived ease of use, and social influence: Intention to use e-wallet. *Advances in Economics, Business and Management Research*, 187, 2–3. doi:10.2991/aebmr.k.210831.060
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley Publishing Company.
- Forbes. (2022). 13 effective ways to improve and expand digital payment methods. Retrieved from https://www.forbes.com/sites/forbestechcouncil/2022/01/05/13effective-ways-to-improve-and-expand-digital-paymentmethods/?sh=fb7e2985ef29
- Hartini, A., Cheong, S. L., & Yahaya, S. N. (2021). Factors affecting adoption of w-wallet among Gen-Y in Pahang. *Journal of Technology Management and Technopreneurship*, 9(2), 3–9.
- Hu, M. K., & Kee, D. M. H. (2022). SMEs and business sustainability: Achieving sustainable business growth in the new normal. In I. Management Association (Ed.), *Research Anthology on Business Continuity and Navigating Times of Crisis* (pp. 1036–1056). Hershey, PA: IGI Global. doi:10.4018/978-1-6684-4503-7.ch052
- Johnson, K. (2015). *The importance of user experience for mobile apps*. Retrieved from https://www.business2community.com/mobile-apps/importance-userexperience-mobile-apps-01321326

International Journal of Applied Business and International Management (IJABIM) Vol.7 No.3, pp.108-120, December, 2022 E-ISSN: 2621-2862 P-ISSN: 2614-7432

https://www.ejournal.aibpmjournals.com/index.php/IJABIM

- Karim, M. W. K., Haque, A., Ulfy, M. A. U., Hossain, M. A., & Anis, M. Z. A. (2020). Factors influencing the use of e-wallet as a payment method among Malaysian young adults. *Journal of International Business and Management*, *3*(2), 2–4.
- Kee, D. M. H., Al-Anesi, M., Chandran, M., Elanggovan, S., Nagendran, B., & Mariappan, S. (2021). COVID-19 as a double-edged sword: The perfect opportunity for GrabFood to optimize its performance. *Journal of the Community Development in Asia*, *4*(1), 53–65. doi:10.32535/jcda.v4i1.998
- Kee, D. M. H., Ow, A. L., Ooi, Z. J., Sathiaseelan, P., Pang, K., Sathyan, K. A., & Madhan, S. (2022). Have you touched? A case study of Touch n Go e-wallet. *International Journal of Accounting & Finance in Asia Pasific*, 5(1), 84–94. doi:10.32535/ijafap.v5i1.1416
- Malonda, R. C., Tulung, J. E., & Arie, F. F. (2020). The effect of technology acceptance model, perceived trust, security, and attitude toward OVO usage. *Journal of Economics, Management, Business and Accountancy*, 8(1), 3–8.
- Marimuthu, M., & Roseline, A. (2020). A study on consumer perception towards e-wallet. *Our Heritage*, *68*(17), 283–288.
- Muchran, M. (2015). Acceptance of banking information technology in PT BNI of Makassar. *Journal of Economics and Behavioral Studies*, 7(2), 4–7. doi:10.22610/jebs.v7i2(J).570
- Oppotus. (2020). *E-Wallet usage in Malaysia 2020: Thriving in lockdown*. Retrieved from https://www.oppotus.com/e-wallet-usage-in-malaysia-2020/
- Phan, T. N., Ho, T. V., & Le-Hoang, P. V. (2020). Factors affecting the behavioral intention and behavior of using e-wallets of youth in Vietnam. *The Journal of Asian Finance, Economics and Business, 7*(10), 2–3. doi:10.13106/jafeb.2020.vol7.n10.295
- Phuong, N. N. D., Luan, L. T., Dong, V. V., & Khanh, N. L. N. (2020). Examining customers' continuance intentions towards e-wallet usage: The emergence of mobile payment acceptance in Vietnam. *The Journal of Asian Finance, Economics and Business*, 7(9), 2–6. doi:10.13106/jafeb.2020.vol7.no9.505
- Roger, C. M., James, H. D., & David, F. S. (1995). An integrative model of organizational trust. *Academy of Management*, *20*(3), 2–4. doi:10.2307/258792
- Shane, J. M. S. S., Chan, T. J., & Mohan, Y. M. (2022). Factors affecting the intention to adopt e-wallet services during Covid-19 pandemic. *Journal of Arts & Social Sciences*, *5*(2), 5–10.
- Singh, N., & Sinha, N. (2020). How perceived trust mediates merchant's intention to use a mobile wallet technology. *Journal of Retailing and Consumer Services, 52*, 2–5. doi:10.1016/j.jretconser.2019.101894
- Tahar, A., Riyadh, H. A., Sofyani, H., & Purnomo, W. E. (2020). Perceived ease of use, perceived usefulness, perceived security and intention to use e-filing: The role of technology readiness. *The Journal of Asian Finance, Economics and Business*, 7(9), 2–5. doi:10.13106/jafeb.2020.vol7.no9.537
- Tan, Z. Y. (2022). *E-wallet: Cybersecurity: How much cash would you keep in your e-wallet?*. Retrieved from https://www.theedgemarkets.com/article/ewallet-cybersecurity-how-much-cash-would-you-keep-your-ewallet
- The Economic Times. (2022). *What is "e-wallets."* Retrieved from https://economictimes.indiatimes.com/definition/e-wallets
- Touch 'n Go. (2021). *Malaysia's mobility leader paves the way to a cashless society*. Retrieved from https://www.touchngo.com.my/about-us/our-story/
- Vishal, S., & Avinash, R. (2020). Modeling customers' intention to use e-wallet in a developing nation: Extending UTAUT2 with security, privacy and savings. *Journal of Electronic Commerce in Organizations*, 18(1), 2–4. doi:10.4018/JECO.2020010105

- Wayman, J., Jain, A., Davide, M., & Dario, M. (2005). An introduction to biometric authentication systems. London: Springer.
- Yang, M., Mamun, A. A., Mohiuddin, M., Nawi, N. C., & Zainol, N. R. (2021). Cashless transactions: A study on intention and adoption of e-wallets. *Economic and Business Aspects of Sustainability*, *13*(2), 1–3. doi:10.3390/su13020831
- Yo, P. W., Kee, D. M. H., Yu, J. W., Hu, M. K., Jong, Y. C., Ahmed, Z., ... & Nair, R. K. (2021). The influencing factors of customer satisfaction: A case study of Shopee in Malaysia. *Estudios de Economia Aplicada*, 39(12), 1–16. doi:10.25115/eea.v39i12.6839