

USERS' INTENTION TO USE AN E WALLET INTEGRATED WITH E-HEALTH

Kelvin Yong Ming Lee ¹

Pick Soon Ling ²

Mohamad Jais ³

¹ School of Accounting and Finance, Taylor's University, Selangor, Malaysia.

Email: kelvinyongming.lee@taylors.edu.my

² School of Business and Management, University of Technology Sarawak, Sibul, Malaysia.

Email: ling.pick.soon@uts.edu.my

³ Faculty of Economics and Business, Universiti Malaysia Sarawak, Kota Samarahan, Malaysia.

Email: jmohamad@unimas.my

Article history

Received date : 1-3-2022

Revised date : 2-3-2022

Accepted date : 25-6-2022

Published date : 1-8-2022

To cite this document:

Ming Lee, K. Y., Ling, P. S., & Mohamad Jais. (2022). Users' Intention to Use an E Wallet Integrated With E-Health. *International Journal of Accounting, Finance and Business (IJAFB)*, 7(41), 241 - 249.

Abstract: *This study proposed the integration of E-health function into the E-wallet. With the E-health function, users able to get the workout suggestion for the food purchased or consumed by them. This study extends the technology acceptance model (TAM) by including the social media addiction as the potential factor. This study also successfully collected 240 responses. The findings confirm that perceived usefulness, perceived ease of use and social media addiction are positively related to the attitude toward the integration of E-health function into E-wallet. This attitude is also positively related with the user's intention in using this proposed new function. The outcome of this study may serve as a guideline to enhance the existing E-wallet to attract the potential users. This study also recommends the E-wallet provider to deliver information through the social media. By using this way, E-wallet provider may also attract the potential users who are addicted to social media.*

Keywords: *e-health, e-wallet, technology acceptance model, social media addiction*

Introduction

During COVID-19 pandemic, many governments encouraged their citizen employs the E-wallet as their main payment mechanism, in order to reduce the risk of infection (Aji et al., 2020). Indeed, numerous studies also proven that E-wallet contained various useful functions. Users can easily make their bill payment, having the food delivery, or transfer a certain amount of money through the E-wallet (George & Sunny, 2021). The transactions data in the E-wallet may use to determine the preference of the users or serve as marketing purpose. Besides that, the transaction data may also serve as the workout suggestion for the users. Thus, this study proposes to integrate a simple E-health function into the E-wallet application. The users may also include their simple health information, such as their ages, weight, or heights. Then, the E-health function in the E-wallet may identify the food consumed by their users and provide a workout suggestion for them. Indirectly, these may help the users to understand the effective

ways to burn the calories consumed by them. Meanwhile, various rewards shall be given to the users who successfully achieve the health goals provided in the application.

E-health is also a technological product that helps to keep the patient's health information. It helps to enhance the readability and accessibility of medical records across different healthcare provider locations (Veer et al., 2015). In addition, E-health can reduce healthcare costs and improve the services provided by healthcare centres (Jaana & Pare, 2007; LaFramboise et al., 2009) Users of E-health services may also be concerned about illegal access to sensitive personal information if there is no regulation. As a result, they may refrain from using E-health services. The way users perceive the system is significant in determining their actions and interactions with the system. The provider has to protect data privacy by implementing appropriate privacy and liability measures to build confidence in the eHealth system and services offered, which may include the internet of medical things, among other things.

The general objective of this study is to examine the users' perceptions towards the integration of E-wallet and E-health. This study extends the Technology Acceptance Model (TAM) by including the social media addiction as one of the potential factors that affect user's attitude towards the integration of E-wallet and E-health. The factors to be included in the model are (i) perceived ease of use, (ii) perceived usefulness, and (iii) social media addiction. Numerous studies also revealed that perceived ease of use, perceived usefulness significantly associated attitude toward using E-wallet or E-health application. However, there is also lack of studies which attempt to investigate user' perception towards the integration of E-wallet with other services.

There are some pros and cons for both of the E-wallet and E-health application. However, there is lack of empirical study which attempt to integrate the other function (for instance, E-health) into the E-wallet application. This study is conducted to fill up the knowledge gap by examining users' perception towards integration of E-health in the E-wallet application. This study can make a valuable contribution and provide a useful launching pad for the future research in this area of interest. The findings of this study may act as guidelines by providing empirical evidence for future research in this area as there are not many related empirical studies conducted.

Literature Review

Perceived Ease of Use and Perceived Usefulness

According to Technology Acceptance Model (TAM), perceived ease of use (PEOU) and perceived usefulness (PU) are the primary antecedents of behavioural intention in adopting a new information system (Davis, 1989). For E-wallet, PEOU refers to the user's perception that the E-wallet can reduce the time needed for a task. Moreover, the PEOU influences the individual's behavioural intentions in internet purchasing (Vijayasathy, 2004), E-banking services (Munoz-Leiva et al., 2016; Rahi et al., 2020; Shaikh & Karjaluto, 2015). Individuals also believe that an easily-use new technology can boost up efficiency in completing their tasks (Daragmeh et al., 2021). Likewise, previous studies also revealed that PEOU has a significant impact on PU towards a mobile application (Amin et al., 2014; Natarajan et al., 2018; Shang & Wu, 2017). During the COVID-19 pandemic, the public also frequently uses certain mobile application to reduce the risk of infection (Velicia-Martin et al., 2021). Under such a circumstance, TAM works well to explain the users' attitude towards using a new technology product, then the intention in using it.

On the other hand, perceived usefulness (PU) refers to the users' perception of how helpful a specific technology product in helping them to complete their task (Davis, 1989). As compared to the PEOU, PU was the stronger predictor for intention behaviour (Al-Maghrabi et al., 2011). Users' behaviour and desire to continue using a technology product may be influenced by the user's opinion about the PU of the system in question (Venkatesh, 2015). The PU also shown to a significant positive impact on consumers' attitudes, then their intention to continue using the mobile or internet banking services in previous studies (Foroughi et al., 2019; Rahi & Ghani, 2019).

Social Media Addiction

Social media addiction is a kind of addiction in which people always have a strong desire to use social media (Starcevic, 2013). Individuals suffering from social media addiction are often excessively preoccupied with social media and are motivated by an uncontrolled need to use or check their social media (Andreassen & Pallesen, 2014). The symptoms of social media addiction also manifested in various forms, which included mood, cognition, physical and emotional reactions, and interpersonal and psychological problems (Blachnio et al., 2017; Tang et al., 2016; Zaremohzzabieh et al., 2014). Numerous studies have also shown that long-term use of Facebook is positively associated with mental health problems such as stress, anxiety, and depression and negatively associated with long-term well-being (Eraslan-Capan, 2015; Malik & Khan, 2015; Marino et al., 2017). Moreover, youngsters who spent a long time on social media may also experience depressive symptoms (Lin et al., 2016; Pantic et al., 2012) and poor academic performance (Al-Menayes, 2015). Specifically, addiction to Facebook may also lead to mental health issues, such as anxiety and insomnia (Rooii et al., 2017; Shensa et al., 2017). These mental health issues have also been identified as major causes of irrational behaviour (Rebetez et al., 2015; Steel, 2007) As a result, users who addicted to social media and experienced certain mental health problems may look for the help in the E-health application. The rapid growth of social media platforms also opens up new avenues for health promotion, such as health-related advertising and recommendation (Zhao & Wang, 2020). Besides that, social media also play a role as a promotional tool in affecting the consumers' willingness to spend online (Mohammadpour et al., 2014). Nowadays, E-wallet service providers also utilised social media platforms to raise users' awareness and spend more time in E-wallet platform services (Revathy & Balaji, 2020).

E-Health

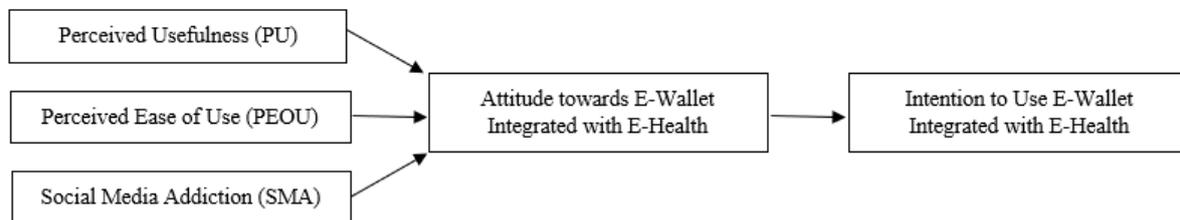
Keuper et al. (Keuper et al., 2021) define e-health as the use of the latest information technologies to improve the health of users and the healthcare system. E-health can also help in sharing relevant health-related data between users and health care providers (Tebeje & Klein, 2021). Boontarig et al. (Boontarig et al., 2012) also extended the UTAUT model to examine the factors that influence older people's intention to use e-health services. They found that perceived value, facilitating conditions, and effort expectancy had significant effects on intention to use e-health services. Hoque et al. (Hoque et al., 2016) also found that perceived usefulness, perceived ease of use, and trust were significant factors that influenced e-health service users' intention. Accordingly, Hsiao et al. (Hsiao & Tang, 2015) showed that perceived usefulness and perceived ease of use also significantly influenced Taiwanese seniors' use of e-health services.

Hypothesis of the Study and Research Model

Based on the preceding discussion, this study proposed the following hypotheses.

- Perceived ease of use positively associated with the attitude towards using the E-wallet with E-health function.
- Perceived usefulness positively associated with the attitude towards using the E-wallet with E-health function.
- Social media addiction positively associated with the attitude towards using the E-wallet with E-health function.
- Attitude towards using the E-wallet with E-health function positively associated with the intention to use the E-wallet with E-health function.

Figure 1: Research model



Data and Methodology

To test the hypotheses, a questionnaire with two sections was developed. The first section of the questionnaire focusses on the demographic data of the participants. The second section consisted of 20 items that were used to measure the model construct. The items were measured by using five-point Likert scale, ranging from “1” to “5”. The “1” refers to the “Strongly disagree”, “2” refers to the “Disagree”, “3” refers to the “Neutral”, “4” refers to the “Agree”, and “5” refers to the “Strongly Agree”.

The survey is converted into Google form and distributed through various social media network such as Facebook, Instagram, and WhatsApp. This study also conducted a pilot test with 20 participants to measure the reliability and consistency of the instruments. The Cronbach’ alpha is used to determine the reliability for the constructs. The construct will be considered as reliable when the Cronbach’ alpha is above 0.70. The composite reliability and average variance extracted are used to access the convergent validity of the model. Then, this study also applies the partial least square structural equation modeling (PLS-SEM) to analyze the research model. PLS-SEM is a suitable approach for models that contain many constructs, indicators, and relationships. In addition, PLS-SEM is a causal-predictive model which able to explain the factors that determine the future behaviour of individuals.

Results and Discussion

This section discussed the results obtained in this study. Table 1 summarizes the demographic information from 200 respondents. Most of the respondents were male (66.25%) and married (62.08%). Majority of the respondents were aged between 31 and 40 years old (51.25%), worked as employees (97.50%) and earned a salary between RM 5,000 to RM 5,999 (29.17%).

Table 1: Demographic Information of The Respondents

		Frequency	Percentage (%)
Gender	Male	159	66.25
	Female	81	33.75
Age	21 – 30	57	23.75
	31 – 40	123	51.25
	41 – 50	32	13.33
	51 - 60	28	11.67
Marital Status	Single	91	37.92
	Married	149	62.08
Education Level	SPM	57	23.75
	STPM	43	17.92
	Diploma	88	36.67
	Degree	45	18.75
	Postgraduate	7	2.92
Employment Status	Employee	234	97.50
	Employer	6	2.50
Income	RM 3,000 – RM 3,999	44	18.33
	RM 4,000 – RM 4,999	62	25.83
	RM 5,000 – RM 5,999	70	29.17
	RM 6,000 – RM 6,999	64	26.67

Table 2 shows that all the factor loadings obtained were exceeding the threshold level of 0.5 suggested by Hair et al. (2009). This implied that the measurement items posed a high individual item reliability. Besides that, the Cronbach's alpha (CA) values for all the items ranged between 0.733 and 0.859. Both the composite reliability (CR) and average variance extracted (AVE) values also higher than the threshold level of 0.5 and 0.7 suggested by Hair et al. (2009). All these results confirmed the convergent validity for all the constructs.

Table 2: Results of Convergent Validity

Variable	Item	Mean	Factor Loadings	CA	CR	AVE
PU	PU 1	3.38	0.847	0.813	0.878	0.643
	PU 2	3.51	0.859			
	PU 3	3.46	0.761			
	PU 4	3.55	0.733			
PEOU	PEOU 1	3.50	0.814	0.837	0.891	0.671
	PEOU 2	3.58	0.821			
	PEOU 3	3.47	0.827			
	PEOU 4	3.55	0.814			
SMA	SMA 1	3.37	0.778	0.809	0.874	0.635
	SMA 2	3.41	0.820			
	SMA 3	3.38	0.801			
	SMA 4	3.42	0.789			

ATT	ATT 1	3.44	0.817	0.833	0.888	0.666
	ATT 2	3.62	0.827			
	ATT 3	3.36	0.839			
	ATT 4	3.52	0.779			
INT	INT 1	3.52	0.795	0.828	0.886	0.660
	INT 2	3.50	0.816			
	INT 3	3.50	0.830			
	INT 4	3.59	0.808			

Table 3: Results of Path Analysis

Path	Coefficient	P-values	Decision
PU → ATT	0.420	0.000	Supported
PEOU → ATT	0.166	0.007	Supported
SMA → ATT	0.234	0.001	Supported
ATT → INT	0.694	0.000	Supported

Table 3 presents the results of path analysis. Perceived usefulness (PU) and perceived ease of use (PEOU) were significantly and positively related with the attitude toward the E-wallet that integrated with E-health function (ATT), at the level of 1%. These results also indicated that the users believe that the E-wallet integrated with E-health function will be easy to use and brings convenience to their daily life. Whereas social media addiction (SMA) also significantly and positively related with the attitude toward the E-wallet that integrated with E-health function. Hence, this result suggests that E-wallet service providers to use the social media as the channel to deliver the information to the users. However, the E-wallet service provider may provide some guidelines for users to assist them in identifying the reliability of the information received. Lastly, the attitude towards the E-wallet that integrated with E-health function also significantly and positively related with the intention to use it. All the hypotheses were supported based on the results obtained.

Conclusion

Today, E-wallet has emerged as the common payment mechanism among Malaysian. It was also a norm that public using E-wallet to make their transaction under the COVID-19 pandemic. Health issue is also another hot topic to be discussed among the Malaysian under such a circumstance. Besides that, COVID-19 pandemic has raised the awareness of public about the importance of health. However, the public may not have sufficient knowledge in the workout needed to burn the calories consumed. This study proposes to integrate the simple E-health function into the E-wallet. With the E-health function, the E-wallet user will receive the recommendation about the workout needed to burn the calories for the food they purchased through E-wallet. Thus, this study aims to investigate the potential factors that affect the users' attitude towards E-wallet with E-health function by extending the Technology Acceptance Model (TAM). There are three factors – (i) perceived ease of use, (ii) perceived usefulness, and (iii) social media addiction - being included in the research model. This study revealed that perceived ease of use, perceived usefulness and social media addiction are positively related to the user's attitude towards the integration of E-health function into the E-wallet. The outcome of this study is expected to contribute to the existing literature and serve a reference for the E-wallet service provider. In addition, this study also provides a useful launching pad for the future research in this area of interest.

References

- A, Blachnio, A, Przepiorka, E, Senol-Durak, M, Durak, and L, Sherstyuk, "The role of personality traits in Facebook and internet addictions: a study on Polish, Turkish, and Ukrainian samples," *Computers in Human Behavior*, vol. 68, pp. 269–275, 2017
- A, George, and P, Sunny, "Developing a Research Model for Mobile Wallet Adoption and Usage," *IIM Kozhikode Society & Management Review*, vol. 10, 82-98, 2021.
- A. Daragmeh, J. Sagi, and Z. Zeman, "Continuous intention to use e-wallet in the context of the covid-19 pandemic: integrating the health belief model (HBM) and technology continuous theory (TCT)," *Journal of Open Innovation*, vol. 7, pp. 1-23, 2021.
- A. Mohammadpour, R. Arbatani, H. Gholipour, F. Farzianpour, and S. Hosseini, "A survey of the effect of social media marketing on online shopping of customers by mediating variables," *Journal of Service Science and Management*, vol. 7, pp. 368-376, 2014.
- A. Shaikh, and H. Karjaluo, "Mobile banking adoption: A literature review," *Telematics and Informatics*, vol. 32, pp. 129–142, 2015.
- A. Shensa, C. Escobar-Viera, J. Sidani, N. Bowman, M. Marshal, and B. Primack, "Problematic social media use and depressive symptoms among US young adults: A nationally-representative study," *Social Science & Medicine*, vol. 182, pp. 150–157, 2017.
- A. Veer, J. Peeters, A. Brabers, F. Schellevis, J. Rademakers, and L. Francke, "Determinants of the intention to use e-Health by community dwelling older people," *BMC Health Services Research*, vol. 15, pp. 1-9, 2015.
- B, Eraslan-Capan, "Interpersonal sensitivity and problematic Facebook use in Turkish university students," *The Anthropologist*, vol. 21, pp. 395–403, 2015.
- B, Foroughi, M, Iranmanesh, and S, Hyun, "Understanding the determinants of mobile banking continuance usage intention," *Journal of Enterprise Information Management*, vol. 32, pp. 1015–1033, 2019.
- C. Hsiao, and K. Tang, "Examining a model of mobile healthcare technology acceptance by the elderly in Taiwan," *Journal of Global Information Technology Management*, vol. 18, pp. 292-311, 2015.
- C. Marino, L. Finos, A. Vieno, M. Lenzi, and M. Spada, "Objective Facebook behaviour: differences between problematic and non-problematic users," *Computers in Human Behavior*, vol. 73, pp. 541–546, 2017.
- C. Revathy, and P. Balaji, "Determinants of behavioural intention on E-wallet usage: An empirical examination in amid of COVID-19 lockdown period," *International Journal of Management*, vol. 11, pp. 92-104, 2020.
- D, Davis, "Perceived usefulness, perceived ease of use, and user acceptance of information technology," *MIS Quarterly*, vol. 13, pp. 319–340, 1989.
- D. Shang, and W. Wu, "Understanding mobile shopping consumers' continuance intention," *Industrial Management & Data System*, vol. 117, pp. 213–227, 2017.
- F. Munoz-Leiva, S. Climent-Climent, and F. Liébana-Cabanillas, "Determinants of intention to use the mobile banking apps: an extension of the classic TAM model," *Spanish Journal of Marketing*, vol. 21, pp. 25-38, 2016.
- F. Velicia-Martin, J. Cabrera-Sanchez, E. Gil-Cordero, and R. Palos-Sanchez, "Researching COVID-19 tracing app acceptance: Incorporating theory from the technological acceptance model," *PeerJ Computer Science*, vol. 7, pp. 316-320, 2021.
- H. Aji, I. Berakon, and M. Husin, "Covid-19 and e-wallet usage intention: A multigroup analysis between Indonesia and Malaysia," *Cogent Business & Management*, vol. 7, pp. 1-16, 2020.

- H. Tang, M. Chen, Y. Yang, Y. Chung, and A. Lee, "Personality traits, interpersonal relationships, online social support, and Facebook addiction," *Telematics and Informatics*, vol. 33, pp. 102–108, 2016.
- I. Pantic, A. Damjanovic, J. Todorovic, D. Topalovic, D. Bojovic-Jovic, S. Ristic, and S. Pantic, "Association between online social networking and depression in high school students: behavioral physiology viewpoint," *Psychiatria Danubina*, vol. 24, pp. 90–93, 2012.
- J. Al-Menayes, "Social media use, engagement and addiction as predictors of academic performance," *International Journal of Psychological Studies*, vol. 7, pp. 86-94, 2015.
- J. Keuper, R. Batenburg, R. Verheij, and L. Tuyl, "Use of e-health in Dutch general practice during the covid-19 pandemic," *International Journal of Environmental Research and Public Health*, vol. 18, pp. 1-11, 2021.
- J. Rooii, J. Ferguson, D. Mheen, and M. Schoenmakers, "Time to abandon Internet addiction? Predicting problematic Internet, game, and social media use from psychosocial well-being and application use," *Clinical Neuropsychiatry*, vol. 14, pp. 113–121, 2017.
- J. Zhao, and J. Wang, "Health advertising on short-video social media: a study on user attitudes based on the extended technology acceptance model," *International Journal of Environmental Research and Public Health*, vol. 17, pp. 1-21, 2020.
- M, Rebetez, L. Rochat, and M. Van, "Cognitive, emotional, and motivational factors related to procrastination: A cluster analytic approach," *Personality and Individual Differences*, vol. 76, 1–6, 2015.
- M. Amin, S, Rezaei, and M, Abolghasemi, "User satisfaction with mobile websites: the impact of perceived usefulness (PU), perceived ease of use (PEOU) and trust," *Nankai Business Review International*, vol. 5, pp. 258–274, 2014.
- M. Hoque, Y. Bao, and G. Sorwar, "Investigating factors influencing the adoption of e-health in developing countries: a patient's perspective," *Informatics for Health and Social Care*, pp. 1-17, 2016.
- M. Jaana, and G, Pare, "Home telemonitoring of patients with diabetes: a systematic assessment of observed effects," *Journal of Evaluation in Clinical Practice*, vol. 13, pp. 242-253, 2007.
- M. LaFramboise, J. Woster, A. Yager, and B. Yates, "A technological life buoy: patient perceptions of the health buddy," *Journal of Cardiovascular Nursing*, vol. 24, pp. 216-224, 2009.
- P. Steel, "The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure," *Psychological Bulletin*, vol. 133, pp. 65–94, 2007.
- R. Vijayarathy, "Predicting consumer intentions to use on-line shopping: the case for an augmented technology acceptance model," *Information & Management*, vol. 41, pp. 747–762, 2004.
- S. Andreassen, and S. Pallesen, "Social network site addiction-an overview," *Current Pharmaceutical Design*, vol. 20, pp. 4053–4061, 2014
- S. Malik, and M. Khan, "Impact of Facebook addiction on narcissistic behavior and self-esteem among students," *Journal of Pakistan Medical Association*, vol. 65, pp. 260–263, 2015.
- S. Rahi, and A. Ghani, "Integration of expectation confirmation theory and self-determination theory in internet banking continuance intention," *Journal of Science and Technology Policy Management*, vol. 10, pp. 533–550, 2019.
- S. Rahi, M. Khan, and M. Alghizzawi, (2020). "Extension of technology continuance theory (TCT) with task technology fit (TTF) in the context of internet banking user continuance intention," *International Journal of Quality & Reliability Management*, vol. 38, pp. 986–1004, 2020.

- T. Al-Maghrabi, C. Dennis, and V. Halliday, “Antecedents of continuance intentions towards e-shopping: the case of Saudi Arabia,” *Journal of Enterprise Information Management*, vol. 24, pp. 85–111, 2011.
- T. Natarajan, S. Balasubramanian, L. Kasilingam, “The moderating role of device type and age of users on the intention to use mobile shopping applications,” *Technology in Society*, vol. 53, pp. 79–90, 2018.
- T. Tebeje, and J. Klein, “Applications of e-health to support person-centered health care at the time of covid-19 pandemic,” *Telemedicine and e-Health*, vol. 27, pp. 150-158, 2021.
- V. Starcevic, “Is Internet addiction a useful concept?” *Australian and New Zealand Journal of Psychiatry*, vol. 47, pp. 16–19, 2013.
- V. Venkatesh, “Mobile Application Usability: Conceptualization and Instrument Development,” *MIS Quarterly*, vol. 39, pp. 435–472, 2015.
- W. Boontarig, W. Chutimaskul, V. Chongsuphajaisiddhi, and B. Papasratorn, “Factors influencing the Thai elderly intention to use smartphone for e-health services,” *IEEE Symposium on Humanities, Science and Engineering Research*, pp. 242-246, 2012.
- Y. Lin, E. Sidani, A. Shensa, A. Radovic, E. Miller, B. Colditz, and A. Primack, “Association between social media use and depression among US young adults,” *Depression and Anxiety*, vol. 33, pp. 323–33, 2016.
- Z. Zaremohzzabieh, B. Samah, S. Omar, J. Bolong, and N, Kamarudin, “Addictive facebook use among university students,” *Asian Social Science*, vol. 10, pp. 107-110, 2014.