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Towards a Sustainable Financial Future: Exploring the Influence of E-Wallet Adoption Among Gen Z in Malaysia

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Abstract: *The COVID-19 pandemic has prompted a shift in payment approaches, with a preference for e-wallets. Despite their potential, Malaysians lag in adopting e-wallets. It is necessary to gain a deeper understanding of the factors influencing e-wallet adoption, especially through Gen Z. Therefore, we conducted this study using the Unified Theory of Acceptance and Use of Technology (UTAUT) framework to explore the factors influencing e-wallet adoption among Gen Z. Interviews with eight members of Gen Z reveal that advantages like time savings and the ability to manage and monitor transactions drive the adoption of the e-wallet payment method. Emergent themes, such as government incentives and the convenience of donating, further delineate the adoption of e-wallets. The adoption of e-wallets will eventually promote sustainable consumption by replacing cash transactions and reducing carbon emissions due to the reduced physical transit of financial resources. This study enhances the UTAUT and suggests prospective avenues for the growth of e-wallets in Malaysia. Practically, the findings are advantageous for financial service providers that are enhancing their e-wallets, as well as for government initiatives to transition to a cashless society and ultimately achieve sustainable development goals.*

Keywords: Cashless society; E-Wallet adoption; Gen Z perspectives; Sustainability; UTAUT framework
JEL Classification: E42, G21, O33

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1. Introduction

The advent of the digital revolution in the 21st century has transformed the economic landscape, which has spread throughout several industries such as industry, healthcare, and finance. According to Teoh et al. (2020), worldwide digitization has had a substantial impact on the financial services industry, the most notable of which is the introduction of electronic payment systems as the predominant means of transaction in the digital economy.

Electronic payment has become a prevalent payment method for online transactions (Teoh et al., 2013). E-payment refers to an electronic billing system that enables clients to make payments utilising the Internet (Tella & Olasina, 2014). These technologies seamlessly connect various payment modalities, such as debit or credit cards and digital money, via mobile devices, effectively eliminating traditional wallets (Andrew et al., 2019). Aside from the use of credit or debit cards, the rapid advancement of smartphones, intelligent payment systems, and wireless telecommunications has significantly improved the methods used to conduct real-world purchase transactions (Seetharaman et al., 2017).

As payments are made via mobile devices, electronic wallets (e-wallets) have emerged as the next wave of transactions. The term 'e-wallet' refers to the digital equivalent of a physical wallet (Singh et al., 2020) which is a smartphone financial application that allows users to preload money to make online and offline purchases (Chawla & Joshi, 2019). Based on the MasterCard Impact Study 2020, Malaysia leads Southeast Asia in e-wallet use, at 40% take-up, compared with the Philippines (36%), Thailand (27%), and Singapore (26%) (as reported in New Straits Times, 2021). Concurrently, e-wallet service providers are promoting the use of e-wallets by offering appealing incentives, such as cashback, coupons, and rebates (Chawla & Joshi, 2019). Nevertheless, there was a significant rise in usage in response to the pandemic, with the adoption of e-wallets surging to a staggering 57%, which is twice the rate before the pandemic (Oppotus, 2023).

This study focuses on Generation Z (Gen Z), a population that is aware of technology and has the potential to become the driving force behind the widespread use of e-wallets. Despite the potential for Gen Z to dominate future usage of electronic payment systems, little is known about what influences their acceptance of e-wallets (Abu Daqar et al., 2020; Mustafa, 2022). The individuals in this group are affiliated with diverse networks,

which often differ from those of previous generations (Ozkan & Solmaz, 2015). Rahadi et al. (2022) noted that Gen Z shows a significantly higher adoption rate of electronic payment devices, including e-wallets, compared to other generations. This demographic is characterized by their comfort and familiarity with digital technologies. Gen Z represents a significant portion of the population that is highly tech-savvy and inclined toward digital solutions (Smith & Anderson, 2018; Williams & Page 2011). Understanding their behavior towards e-wallet adoption is crucial as they are the future drivers of the economy.

Hence, it is imperative for academics and practitioners to analyse the prevailing usage trends of e-payment consumers in the current generation. In its pursuit of a cashless economy, the Malaysian government is focusing on the younger generation, who are adept in digital technologies (The Star, 2020). Malaysia can capitalise on the potential of e-wallets, hence capitalising on the influence of Gen Z to cultivate a healthy ecosystem for digital payment as well as to promote sustainable economic practices. This study also aligns with Che Nawi et al.'s (2020) research urging to delve deeper into the adoption of e-wallets among young consumers in emerging economies, including Malaysia.

Therefore, the objective of this study is to explore the factors that influence the adoption of e-wallets among Gen-Z through the Unified Theory of Acceptance and Use of Technology (UTAUT) lens. The current e-wallet study focuses on user-centric elements and views, disregarding the UTAUT model's facilitating conditions. This intentional exclusion tries to delve deeply into the user behaviors, attitudes, and social influences that drive e-wallet adoption. The research attempts to provide subtle insights into user motives and acceptance patterns for e-wallet usage by narrowing the focus to user-centric. This streamlined approach allows for an in-depth analysis of user experiences and views, revealing light on the underlying variables driving e-wallet acceptance among Gen Z.

The findings of this study have, in general, made a significant contribution to the study of financial technology, particularly concerning the process of e-wallet adoption among members of Gen Z. By utilising the theoretical framework of UTAUT, it has helped us gain a more in-depth understanding of the specific factors that influence the use of e-wallets by Gen Z. Moreover, this study provides practical suggestions for financial service providers to improve their e-wallet systems to increase adoption

among larger demographic groups and contribute to the sustainability of the ecosystem. In truth, the role of fintech and payments is becoming increasingly crucial in the efforts to achieve net zero emissions and promote financial inclusiveness globally.

2. Literature Review

2.1. E-Wallet Adoption

As consumers become concerned about the health concerns of handling banknotes during the COVID-19 pandemic, the appeal of contactless and mobile payments has grown (Teng & Khong, 2022). Mobile payment is defined as 'the use of a mobile device to conduct a payment transaction in which money or funds are transferred from payer to receiver via an intermediary or without an intermediary' (Mallat, 2007, p.415). Mobile payments are one of the innovations in financial technology in line with the development of the information and communication technology (ICT) sector, accompanied by the widespread use of mobile phones (Daragmeh et al., 2021). Mobile devices can be used for mobile payments, which involve micro-payment methods that need to be supported by verification systems to ensure security and convenience for each transaction (Karsen et al., 2019).

Mobile payment options include e-wallets. E-wallets store money on a server rather than a chip card (Aji et al., 2020). It facilitates users to make payments through mobile devices as an alternative to cash. In general, an e-wallet is defined as an electronic payment and receipt process (Humphrey et al., 1996). Through the utilisation of an e-wallet, individuals can effortlessly and expeditiously carry out their financial activities by leveraging technologies such as Quick Response (QR) codes and near-field communications (NFC). QR codes or barcodes are used as tools to connect both the user's and the recipient's bank accounts without the need to reveal recipient account details for transaction purposes (Intarot & Beokhaimook, 2018). E-wallet stands as one of the finest creations within the realm of electronic payment systems (Karim et al., 2020) due to the offered convenience, reshaping the way customers and merchants conduct transactions (Daragmeh et al., 2021). The use of e-wallets allows users to make online transactions regardless of time and place (Weir et al., 2006), indirectly fostering both domestic and international trade.

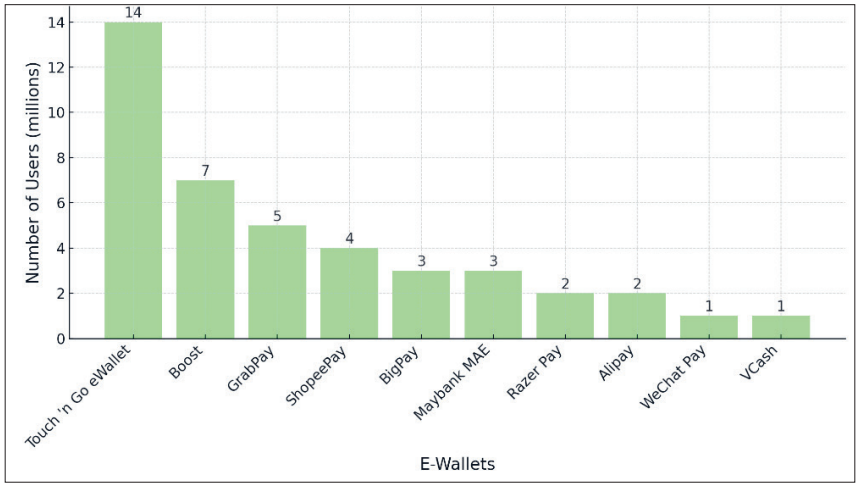
Amid the ongoing rapid global digitalization, the domains of fintech and payments will play an increasingly crucial role in the endeavor to achieve net zero. Given that sustainability is now both a business advantage and a regulatory requirement, fintech companies are actively establishing themselves as leaders in the net zero movements inside the financial industry (Thompsett, 2023). Thus, utilizing digital payments is crucial for attaining sustainability objectives. The conventional method of conducting transactions with physical money necessitates a substantial number of natural resources, as well as electricity and fuel, for the production of banknotes and coins. Furthermore, the transportation of physical money between different locations necessitates the use of vehicles, a significant portion of which may rely on diesel fuel. Transportation-related industries are responsible for two-fourths of all greenhouse gas emissions (Raihan & Said, 2022). Both the manufacturing and distribution processes will generate thousands of metric tonnes of carbon dioxide (CO_2) annually. Therefore, using an e-wallet significantly avoids these environmental expenses. By utilizing pre-existing and widely available infrastructure like smartphones and mobile networks, the use of paper receipts is eliminated, hence significantly lowering the environmental impact of payments.

In Malaysia, the government has supported the use of e-wallets by introducing several initiatives, starting with e-Tunai and later e-Penjana e-wallet stimulus, the Shop Malaysia Online (SMO)initiative, and the Micro, Small and Medium Enterprises (MSME) e-commerce campaign to increase higher adoption of digital payment and as a safer method payment during pandemic (The Star, 2020). According to recent statistics by Statista (2024), the top three major e-wallet services by Malaysians are Touch ‘n Go, Boost, and GrabPay. Figure 1 illustrates the major e-wallet services in Malaysia.

However, e-wallet usage also faces several issues. The security and privacy concerns, such as the risk of fraud and data misuse (Zhou, 2011; Keith et al., 2013); technical issues like device compatibility and internet connectivity (Oliveira et al., 2016; De Kervenoael et al., 2020); and user experience challenges, including complex interfaces and lengthy registration processes (Zarmpou et al., 2012; Chong et al., 2012). Further, distrust in digital payments and low financial literacy also hinder adoption (Gefen et al., 2003; Lusardi & Mitchell, 2014). Gen Z who are digital natives also sometimes due to unfamiliarity with features are not fully aware of the features and benefits of e-wallets, leading to reluctance to adopt them (Kim,

Mirusmonov, & Lee, 2010). Younger Gen Z individuals, such as students, may have limited funds and see little need for an e-wallet (Pal & Vanijja, 2020). Despite the issues, Malaysia has led Southeast Asia in e-wallet use (MasterCard Impact Study, 2020).

Figure 1: Major E-Wallet Services in Malaysia, 2024



Source: Statista (2024).

2.2. UTAUT Model Framework

The UTAUT model employed in this study focuses on user-centric aspects and viewpoints, thereby focusing on the three UTAUT model elements. To begin, performance expectancy is a factor that improves user activity performance. Second, effort expectancy relates to the simplicity with which technology may be used, and finally, social influence refers to how people are encouraged by others to accept and use technology. The following section will look over these three parts in further detail.

2.2.1 Performance Expectation

The primary determinant of the UTAUT that is applied in the user context is performance expectancy (Erjavec & Manfreda, 2022; Venkatesh et al., 2012), which refers to the level to which the use of technology will benefit users in carrying out specific activities (Raihan & Rachmawati, 2019). Individuals

are more inclined to adopt new technology when they believe it will aid them in task execution (Rahman et al., 2020). It also signifies an individual's confidence in a particular system to enhance job performance (Jin et al., 2019) and the ability to enhance efficiency through the use of novel methods (Zhipeng, 2022). Performance expectancy has been demonstrated to have an influence in both voluntary or mandatory situations and situations without experience (Ayaz & Yanartaş, 2020; Lu et al., 2009).

Teoh et al. (2020) conducted a study that found performance expectancy to be the most influential factor in determining usage intention in the original model. In addition, research suggests that performance expectancy also plays a significant role in influencing behavior in the context of mobile payments. The technology that enables users to have a quicker and more effective shopping experience also enhances their expectations for performance (Slade et al., 2015). Users employ e-wallets for their convenience and are more inclined to utilize them extensively when they may reap the advantages of cashback benefits and accumulated loyalty points (Teng & Khong, 2021). Furthermore, the utilization of the e-wallet not only provides convenience and swiftness, but also instills a feeling of reassurance and protection for consumers during their purchase transaction (Seetharaman et al., 2017). Put simply, it can influence how users perceive the results achieved by utilising a specific system (Tun-Pin et al., 2019).

Nonetheless, when it comes to banking and making online payments using an application, consumers have also identified potential risks that could prevent them from taking action (Lu et al., 2005; Marafon et al., 2018). Prior research has demonstrated the existence of many categories of potential risks associated with Internet or online transactions, such as product performance risks, financial risks, time/convenience risks, and psychological risks (Forsythe & Shi, 2003).

2.2.3 Effort Expectation

Effort expectation refers to the perceived ease of utilizing technology and the confidence an individual has in using a system with low effort. Additionally, it includes assessments of system architecture, user interface, adaptability, and simplicity of acquiring knowledge (Ayaz & Yanartaş, 2020; Carter & Belanger, 2004). Tun-Pin et al. (2019) define it as the absence of the need for additional skills when using new technology. This is achieved by a

user-friendly platform, clear instructions, and support in facilitating online transactions. Effort expectancy refers to the ease with which users perceive a new technology to be learnt and used, and it influences their likelihood of continued long-term usage (Teoh et al., 2020). There is a positive correlation between the perceived ease of use and the intention to utilize a product or system, as stated by Tusyanah et al. (2021).

Technologies that are less complex can attract a larger user base, while experienced users are capable of thinking more comprehensively to attain pleasure and improve their behavioral intention (Tusyanah et al., 2021; Pappas et al., 2014). According to Tusyanah et al. (2021), students get skilled in utilising cashless transaction applications through experience, and this expertise increases their propensity to use these applications. Research by Suls and Wallston (2008) also confirms that the benefits of platforms such as user-friendliness and effectiveness are critical factors influencing technology adoption and usage.

2.2.2 Social Influence

Social influence refers to the degree to which individuals view the significance of others in shaping their inclination to adopt a new system (Ayaz & Yanartaş, 2020). It influences an individual's conduct by eliciting compliance, shaping their identity, and prompting recognition. These responses can be attributed to social pressure, the desire for approval in social circles, and alterations in an individual's belief system (Tun-Pin et al., 2019; Kim et al., 2016). According to Rahman et al. (2020), social influence pertains to the process by which individuals modify their conduct in response to the expectations of their social surroundings, and how these changes in individual perceptions affect their sense of belonging within society. Media representations, advertisements, public figures, celebrities, or influencers' support of particular initiatives can also have an impact on people's attitudes and decisions (Hoffman et al., 2017; Zhou et al., 2019).

The aforementioned phenomenon can create the impression that people are swayed by the viewpoints of a minority group toward a particular system, even if they have not yet embraced the technology but are capable of evaluating its prospective use (Erjavec & Manfreda, 2022; Sun, 2013). Social impact has altered the pattern of ongoing influence, and it is considered to be a critical factor in the initial phases of adoption (Rahman et

al., 2020; Lu, 2014). For instance, peers have a substantial impact on shaping individuals' views and conduct, including the development of loyalty (Purani et al., 2019).

3. Research Methodology

This study aims to explore the factors that contribute to the adoption of e-wallets among Gen-Z in Malaysia. The study utilised a qualitative approach to investigate the research topics through the use of semi-structured in-depth interviews. The interviews center on the subjects of effort expectancy, performance expectancy, and the impact of social influence on the utilisation of e-wallets. The qualitative design is the most suitable option for this specific study since it aims to comprehend the process, and significance, and get a profound grasp of a phenomenon (Merriam 2009). This study adopts an inductive approach, with the researcher serving as the primary instrument for data collection and analysis. The main focus is on examining the process and gaining a comprehensive understanding of the experience related to a given event (Merriam & Tisdell 2016; Miles & Huberman 1994).

This study was conducted among Gen Z in Malaysia who were aware of financial technology products and integrated the use of electronic payment systems into their daily lives. Gen Z, being the greatest demographic of future e-payment users (Abu Daqar et al., 2020; Mustafa, 2022), is a critical group to research for e-wallet adoption. Born in the digital age and highly familiar with technology, they have the potential to be the driving force behind the adoption of e-wallets. The selection of this particular group was based on their high probability of engaging in frequent online purchases and transactions, which could potentially influence their usage of e-wallets. Thus, the sample criteria for this study are as follows: i) the participants must belong to the Gen Z demographic; ii) the participants must have at least one e-wallet application; and iii) the participants must utilise the e-wallet for at least one transaction per week. The profiles of the participants are presented in Table 1.

Table 1: Profile of Participants

Participants	Age	Frequency of Usage	E-Wallet Applications Used
EW1	21	2-3 times a week	*Touch 'n Go, GrabPay*
EW2	22	Every day	*MAE, Touch 'n Go, ShopeePay*
EW3	21	Every day	*GrabPay, DuitNow*
EW4	21	2-3 times a week	*Touch 'n Go*
EW5	22	5-6 times a week	*Touch 'n Go, MAE*
EW6	23	3-4 times a week	*Touch 'n Go, ShopeePay*
EW7	21	Every day	*Touch 'n Go*
EW8	22	2-3 times a week	*GrabPay, MAE*

Notes: EW is a code used to preserve anonymity.
Source: Author, based on in-depth interview session.

The semi-structured, in-depth interviews were performed in early 2023 with eight Gen Z participants at their own chosen place such as restaurant. Every interview session was conducted according to an interview protocol (Patton, 2015). The protocol consisted of four sections: i) the background of participants, ii) questions related to e-wallets benefits iii) questions related to the ease of using e-wallets, and iv) questions related to the social influence of e-wallet usage. Further inquiries were made to ensure continuous clarification, when necessary (Miles & Huberman, 1994). The interview and data collection were ceased for all eight participants upon reaching the point of data saturation (Merriam & Tisdell, 2016; Gill, 2020).

With the consent of the participants, the conducted interviews were recorded for data analysis purposes. On average, each participant's interview lasted around one hour of audio recording. Managing the extensive and plentiful data transcriptions and converting them into text data and coding posed a significant challenge (Hesse-Biber & Leavy, 2006). Therefore, in this study, the transcription scripts were uploaded into computer-assisted qualitative data analysis software (CAQDAS) namely ATLAS.ti. The utilisation of CAQDAS helps in better demonstrating analytical techniques and the processes undertaken to develop analytical conclusions (Crowley et al., 2002).

The current study utilised thematic analysis, specifically employing the constant comparative method. This method involves continuously questioning and comparing the themes derived from the data with existing literature, while also analyzing the data. (Merriam & Tisdell, 2016; Strauss,

1987; Strauss & Corbin, 1998). The study's common themes, patterns, or categories were identified using the open, axial, and selective coding process outlined by Strauss and Corbin (1998). Open coding involves breaking down basic data into initial groups and later axial coding connects these categories, creating relationships and detailing their interactions. Finally, selective coding refines and unifies categories into a single core category resulting in a unified theoretical framework.

4. Research Findings

The subsequent sections analyse the interview data on the factors that influence the adoption of e-wallets among Gen Z following the UTAUT framework. From the thematic analysis, eight sub-categories were identified from the data that was obtained.

4.1 Performance Expectation

Performance expectation refers to the extent to which users will benefit from the usage of technology in carrying out specified tasks (Raihan & Rachmawati, 2019). Two sub-categories emerged from this analysis, namely time-saving and transaction monitoring.

4.1.1 Time Saving

The study revealed that the advantages acquired have significantly propelled the utilisation of e-wallets in daily life. The speed of transaction operations, which results in time savings, is a critical determinant of e-wallet adoption among Gen Z. This is exemplified in the following quotations:

> *"... e-wallet speeds up transaction processes and* ***saves my time*** *as I don't need to withdraw cash from the bank, I only use my phone and can make quick transactions."* (EW2)

> *"I want to use this e-wallet because it's easy for transactions, and I don't need to carry cash every day for purchases,* ***saving my time****."* (EW3)

4.1.2 Transaction Monitoring

In addition, the inclusion of transaction history or traceable evidence accessible to users is another factor driving the use of e-wallets. This feature enables users to concurrently track their cash flow and effectively manage their monthly expenses. As captured in these quotations:

> *"I can always **check my cash balance** in e-wallet apps. So, I can manage my expenses compared to using cash where I can't track where and how much I've spent... For instance, when the receipt is lost."* (EW3)

> *"It's very convenient because I can **review my past transactions** and control my expenses after seeing daily transactions."* (EW7)

4.2 Effort Expectation

Effort expectation describes how easily a person uses technology and how confident they are in their ability to use a system with little effort (Erjavec & Manfreda, 2022; Jin et al., 2019). Two sub-categories emerged from this analysis, namely straightforward process and clarity of instructions.

4.2.1 Straightforward Process

The system design which includes a user-friendly interface facilitates the operation of e-wallets by eliminating the need for users to acquire advanced abilities. Fundamentally, the system is straightforward to acquire and utilise, resulting in heightened consumer contentment. As mentioned by two participants in the following quotations:

> *"The **process is simple because it only requires two steps**, scan the QR code and input the amount." (EW1)*

> *"It's is very simple to use e-wallet... we **just show the QR code and the shop scans it.**" (EW4)*

4.2.2 Clarity of Instructions

A well-designed system also provides clear instructions that assist users through various tasks, such as creating accounts, conducting transactions, or accessing features. These simple instructions offer a favorable user experience, instilling confidence and faith in the system's usability and encouraging users to continue using the e-wallet. For example, participants mentioned that:

> *"... at the beginning of using e-wallets, when I tried each function, I could understand and use it... the* ***steps shown are easy to understand.****"* (EW8)

> *"There was a learning curve at the beginning, I didn't know how to use it, had to learn it first. But* ***when I got used to it, actually it's not difficult to use*** *the e-wallet."* (EW4)

> *"So far, no issues as everything is easy to understand. The* ***instructions are very clear.****"* (EW5)

4.2.3 Convenient to Donate

The technology allows users to not only conduct transactions for shopping and payment but also encourages people to donate with ease using QR codes. Users may easily scan the QR code and choose an amount to donate, making the donation procedure quick and simple. E-wallets allow users to donate directly and instantaneously, providing them the flexibility and convenience to support causes that are important to them thereby making the act of donating more convenient. As expressed in the following quotations:

> *"E-wallets make it super* ***easy to donate****. I can just scan a QR code, pick an amount, and you are done. It is so quick and simple."* (EW7)

> *"With this kind of technology... can scan the QR code from our e-wallet... It is* ***easier to donate****, to do good and charity."* (EW8)

4.3 Social Influence

Social influence describes individuals modifying their behavior to match the demands of their social environment, as well as how these changing individual perspectives see themselves within their society (Rahman et al. 2020). Two sub-categories emerged from this analysis, namely peer recommendation and government incentive.

4.3.1 Peer Recommendation

The behaviour and lifestyle of one's surroundings frequently impact one's opinions or experiences. In this study, it was observed that peer behavior influenced the payment behaviors of the participants, particularly during the acceptance stage. This is evidenced by these quotations:

> *"I feel that **my friends influence using e-wallets** because we often hang out together, and e-wallets are frequently used. Indeed, **my friends introduced me to using e-wallets**."* (EW1)

> *"For me, this influence comes from a variety of sources, **one of which is friends**.... because we frequently go out together, so my friend introduced me to using e-wallets for payments."* (EW2)

4.3.2 Government Incentive

Furthermore, this study revealed that the government's efforts to provide incentives through e-wallet systems have eventually encouraged e-wallet adoption because they must utilise digital wallets to receive these financial benefits. As an example, the Malaysian government has implemented a program to encourage the use of digital payments. Eligible Malaysians can receive credits through certain e-wallet services, which promote secure and contactless transactions and help produce income for the country during the pandemic (Wong, 2020). Because of the incentives, users were pushed toward understanding and accepting the e-wallet in the first place. As expressed in the following quotations:

*"I feel it's very helpful for starting e-wallet usage because **I receive incentives through e-wallets** and need to use it via e-wallets as well."* (EW1)

*"... we have to use **e-wallets to receive incentives**. So, I think that also helps because when we redeem it, indirectly we learn to use the e-wallet."* (EW2)

*"... these **incentives are given through e-wallets** too. For example, redeemed from TNG, ShopeePay, and others. So, this aid can further encourage e-wallet usage."* (EW7)

Moreover, the participants revealed that they were exposed to the e-wallet incentive through government advertisements aimed at promoting the incentives, as evidenced in the following quotations:

*"I learned about e-wallets through **government advertisements** during that time when they were promoting the e-Belia incentive."* (EW4)

*"... the government also influenced me to use this e-wallet... previous government in 2018, the minister has given incentives... I still recall the RM30 e-wallet **incentive advertisement**, then everyone eager to learn how to use (e-wallet)."* (EW6)

In summary, the opinions sought from the eight Gen Z regarding the factors that influence their e-wallet adoption revealed these important categories; namely, the performance expectation (i.e., time-saving and transaction monitoring); user expectation (i.e., straightforward process, clarity of instructions, and convenient to donate); and the social influence (i.e., peer recommendation and government incentive). Table 2 summarises the study findings.

Table 2: The Study Findings

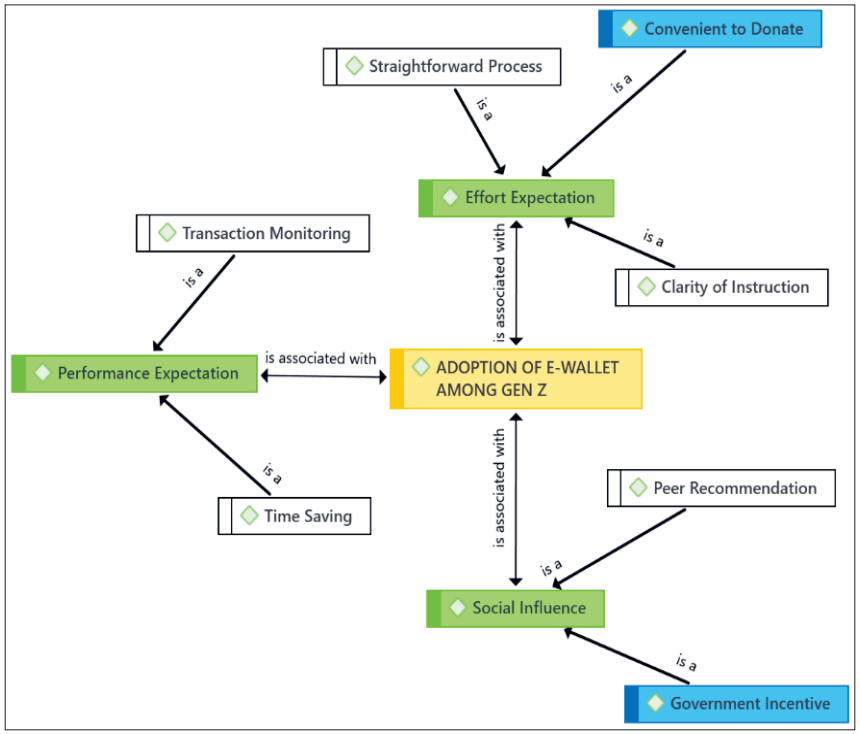
UTAUT	Apriori Themes	Emergent Themes
Performance Expectation	• Time-saving • Transaction monitoring	
Effort Expectation	• Straightforward process • Clarity of instructions	• Convenient to donate
Social Influence	• Peer recommendation	• Government incentive

Source: Authors, based on analysis of data

5. Discussion

This section discusses how performance expectancy, effort expectancy, and social influence, as interpreted through the UTAUT framework, influence e-wallet adoption among Gen Z (see Figure 2).

Figure 2: Findings Illustration Generated from ATLAS.ti, V 23



The findings illustrate the profound impact of several benefits that play a critical role in sustaining the use of e-wallets. The features that allow consumers to conveniently track their transactions and save time when doing transactions are extremely important. The ability to monitor transactions provides users with a heightened sense of financial awareness and control, which in turn encourages a more conscientious approach to the management of expenditures. At the same time, the time-saving characteristics have the effect of expediting the payment process, which in turn improves user convenience and efficiency (Slade et al., 2015).

Effort expectation is also recognised as a factor influencing e-wallet adoption. The simple procedure of utilising an e-wallet, as well as an easily navigable application design with clear user instructions, has a beneficial impact on encouraging consumers to embrace the e-wallet system because users are not confused or overwhelmed by the usage process. Indeed, e-wallet business models that are successful incorporate user-friendly interfaces. (Teng & Khong, 2021). As a result, the interface quality has a big influence on users' tendency to embrace e-wallet systems. The interface should be well-crafted to ensure that it is easy to browse and provides clear and brief instructions. The user interface should be designed in such a way that it avoids confusion and prevents consumers from feeling overwhelmed by the process of using the product. This will result in a more positive and seamless user experience, increasing adoption. Further, the advancement of technology will also lead to an increase in the engagement of benevolent actions performed by users. In the context of Gen Z, the emerging theme of utilisation of e-wallets is convenient to donate. With the technology, it motivates and encourages Gen Z to engage in philanthropic activities more frequently, since it offers them a simple and convenient means to make instant donations with minimal effort. Indeed, the utilitarian features of the technology platform (such as its ease of use) increase users' intentions to donate (Anim & Omar, 2020).

Subsequently, it is worth noting that this generation exhibits a greater sensitivity to the impact of their peers when it comes to experiencing and adopting emerging technologies. Furthermore, individuals exist within a socialist framework, where they remain engaged in tasks due to a shared understanding and goal (Senik et al., 2022; Jamaludin et al., 2023). When a collective of individuals share a common belief and exhibit interest in a particular subject, it will rapidly disseminate (Intarot & Beokhaimook,

2018). Moreover, social influence is capable of making people who have never used an e-wallet service before start using them by helping them believe and understand the service better (Fedorko et al., 2021). Therefore, peer endorsement serves as a catalyst, motivating and influencing the conduct of individuals within the social circle to adopt and utilise digital payment systems. By capitalizing on peer-to-peer marketing tactics and cultivating favorable peer experiences, it may be possible to increase the acceptance of e-wallets among this demographic significantly.

Further, an interesting emerging element from this study is that government incentives lead to e-wallet adoption. The initial acceptance of e-wallets can be attributed to the incentives provided by the government. Individuals initially adopt a particular behavior due to coercion or compulsion, then subsequently come to embrace it. At the individual level, research has shown that government assistance has a major impact on customers' willingness to use mobile payment in the context of Internet banking (Rambocas & Arjoon, 2012; Tan & Teo, 1998). Hence, the government's initiatives to promote new developments in digital literacy by implementing support programs like e-Tunai and e-Penjana are imperative drives people to start utilising e-wallets. This study emphasizes that government incentives received through e-wallets serve as an indirect method for participants to gain knowledge and expertise in using e-wallets. Indeed, it serves as an educational tool and a source of motivation for boosting awareness and use of e-wallet systems.

In addition, the advantages of utilising an e-wallet not only prioritize the convenience of the user but also align with broader sustainability objectives. E-wallets aid in environmental preservation by enabling digital transactions and reducing dependence on physical money. E-wallets offer a means to promote environmentally conscious and sustainable financial practices, while also providing immediate advantages to their users.

By employing government incentives to promote the adoption of e-wallets, authorities are indirectly promoting a shift towards more ecologically sustainable financial practices. Encouraging the use of digital payment systems promotes sustainability goals by reducing reliance on physical currency, potentially leading to a decrease in paper waste and the promotion of ecologically friendly transactional habits.

6. Implications and Contributions of the Study

This study has provided new insights into the perspectives of Gen Z who incorporate e-wallet usage into their daily lives. The study contributes to the UTAUT by explaining factors influencing the adoption of e-wallets among Gen Z. The emerging concept of government incentive as part of social influence, and convenience to donate implies an effort expectation by Gen Z provides a fresh approach to encourage the adoption of e-wallets, especially in countries where the acceptance rate has been relatively low. This motivation promotes the use of cashless transactions, which in turn supports environmental sustainability. By utilising e-wallets, consumers can significantly reduce their reliance on physical banks or ATMs for conducting transactions, hence minimizing carbon emissions associated with traveling.

This study illustrates the possible growth of e-wallet adoption in Malaysia, which could lead to a society that relies less on cash, with Gen Z playing a significant role in driving this transformation. The findings of this study give valuable insights for merchants and e-wallet providers. They shed light on the key elements that drive usage, help in understanding acceptance, and guide user expectations. To optimize the user experience, it is necessary to improve transaction speed and verification processes, as well as create user-friendly e-wallet designs to promote continued user engagement and attract new users.

Furthermore, these findings may assist the government in establishing effective programs to encourage the utilisation of e-wallets. Expanding efforts to include a wide range of demographics and promoting merchant involvement in digital wallet services promotes widespread acceptance and fits with sustainable principles. The adoption of e-wallets and the promotion of sustainable financial practices are propelled by the collaborative efforts of stakeholders.

7. Conclusion

This study explores the factors that contribute to the adoption of e-wallets among Gen-Z. From the perspective of the UTAUT framework, this study focuses on user-centric aspects and viewpoints thus focusing on the performance expectation, effort expectation, and social influence elements. The findings indicate that the adoption of digital payment methods is greater

in instances where e-wallet applications are user-friendly and do not require an excessive level of ability to learn. An e-wallet application that provides users with explicit instructions facilitates its operation. Additionally, the ease and speed of donating through an e-wallet eliminates the need for users to fill out an account number and transmit funds, thereby encouraging them to contribute to charitable causes with minimal effort.

The study's findings also indicate the expected performance of e-wallets, which might be beneficial, such as facilitating time savings and transaction monitoring leading to the continued usage of e-wallets. In addition, government incentives to encourage the use of e-wallets and an individual's social context are consequently two societal factors that influence e-wallet adoption. This study demonstrates the possible growth of e-wallet use in Malaysia, which has the potential to eventually establish a cashless society and promote sustainability, with Gen Z playing a big part in encouraging this shift.

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References

Abu Daqar, M.A.M. Arqawi, S. Karsh, S.A. (2020). Fintech in the eyes of Millennials and Generation Z (the financial behavior and Fintech perception). *Banks and Bank Systems*, *15*, 20-28. https://doi.org/10.21511/bbs.15(3).2020.02

Aji, H.M., Berakon, I., & Md Husin, M. (2020). COVID-19 and e-wallet usage intention: A multigroup analysis between Indonesia and Malaysia. *Cogent Business and Management*, *7*(1), 1804181. https://doi.org/10.1080/23311975.2020.1804181

Andrew, J.V., & Tan, K.E. (2019). A model of factors influencing consumers' intention to use e-wallet system in Malaysia: A systematic review. *Malaysian Journal of Business and Economics (MJBE)*, *6*(2), 53-53.

Anim, N.A.H.M., & Omar, N.A. (2020). Sadaqah-based crowdfunding: Drivers of Muslim donor contribution behavior. *Global Journal Al-Thaqafah*, (SpecialIssue), 1–14.

Ayaz, A., & Yanartaş, M. (2020). An analysis on the unified theory of acceptance and use of technology theory (UTAUT): Acceptance of electronic document management system (EDMS). *Computers in Human Behavior Reports*, *2*, 100032. https://doi.org/10.1016/j.chbr.2020.100032

Chawla, D., & Joshi, H. (2019). Consumer attitude and intention to adopt mobile wallet in India: An empirical study. *The International Journal of Bank Marketing*, *37*(7), 1590-1618. https://doi.org/10.1108/IJBM-09-2018-0256

Che Nawi, N., Mamun, A.A., Hayat, N., & Seduram, L. (2022). Promoting sustainable financial dervices through the adoption of eWallet among Malaysian working adults. *SAGE Open*, *12*(1). https://doi.org/10.1177/21582440221079812

Chong, A. Y. L., Chan, F. T. S., & 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. https://doi.org/10.1016/j.dss.2011.12.001

Chopdar, P.K., Paul, J., & Prodanova, J. (2022). Mobile shoppers' response to Covid-19 phobia, pessimism and smartphone addiction: Does social influence matter? *Technological Forecasting and Social Change*, *174*, 121249. https://doi.org/10.1016/j.techfore.2021.121249

Daragmeh, A., Lentner, C., & Sági, J. (2021). FinTech payments in the era of COVID-19: Factors influencing behavioral intentions of "Generation X" in Hungary to use mobile payment. *Journal of Behavioral and Experimental Finance*, *32*, 100574. https://doi.org/10.1016/j.jbef.2021.100574

Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340. https://doi.org/10.2307/249008

De Kervenoael, R., Yanık, Ş., & Gunes, S. (2020). Mobile banking: Understanding technology adoption and user interface design. *International Journal of Bank Marketing*, *38*(6), 1284-1308. https://doi.org/10.1108/IJBM-08-2019-0306

Erjavec, J., & Manfreda, A. (2022). Online shopping adoption during COVID-19 and social isolation: Extending the UTAUT model with herd behavior. *Journal of Retailing and Consumer Services*, *65*, 102867. https://doi.org/10.1016/j.jretconser.2021.102867

Fedorko, I., Bacik, R., & Gavurova, B. (2021). Effort expectancy and social influence factors as main determinants of performance expectancy using electronic banking. *Banks and Bank Systems*, *16*(2), 27-37. https://doi.org/10.21511/bbs.16(2).2021.03

Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, *27*(1), 51-90. https://doi.org/10.2307/30036519

Hoffman, S.J., Mansoor, Y., Natt, N., Sritharan, L., Julia, B., Caulfield, T., … & Sharma, A.M. (2017). Celebrities' impact on health-related knowledge, attitudes, behaviors, and status outcomes: Protocol for a systematic review, meta-analysis, and meta-regression analysis. *Systematic Reviews*, *6*, 1-13. https://doi.org/10.1186/s13643-016-0395-1

Humphrey, D.B., Pulley, L.B., & Vesala, J.M. (1996). Cash, paper, and electronic payments: A cross-country analysis. *Journal of Money, Credit and Banking*, *28*(4), 914-939. https://doi.org/10.2307/2077918

Intarot, P., & Beokhaimook, C. (2018). Influencing factor in e-wallet acceptance and use. *International Journal of Business and Administrative Studies*, *4*(4), 167-175.

Jin, C.C., Seong, L.C., & Khin, A.A. (2019). Factors affecting the consumer acceptance towards fintech products and services in Malaysia. *International Journal of Asian Social Science*, *9*(1), 59-65. https://doi.org/10.18488/journal.1.2019.91.59.65

Jamaludin, N.A., Senik, Z.C., Ramdan, M.R., Anim, N.A.H.M., Rosdi, S.A.M., & Ramli, R.M. (2023). Knowledge Distribution in Immigrant Entrepreneurship: A Qualitative Study of Immigrant Entrepreneurs in Malaysia. *Journal of Distribution Science*, *21*(8), 1-10. https://doi.org/10.15722/jds.21.8.202308.1

Karim, M.W., Haque, A., Ulfy, M.A., Hossain, M.A., & Anis, M.Z. (2020). Factors influencing the use of e-wallet as a payment method among Malaysian young adults. *Journal of International Business and Management*, *3*(2), 1-12.

Karsen, M., Chandra, Y.U., & Juwitasary, H. (2019). Technological factors of mobile payment: A systematic literature review. *Procedia Computer Science*, *157*, 489-498. https://doi.org/10.1016/j.procs.2019.09.004

Keith, M. J., Thompson, S. C., Hale, J., Lowry, P. B., & Greer, C. (2013). Information disclosure on mobile devices: Re-examining privacy calculus with actual user behavior. *International Journal of Human-*

Computer Studies, *71*(12), 1163-1173. https://doi.org/10.1016/j.ijhcs.2013.08.016

Kim, S. H., Mirusmonov, M., & Lee, H. (2010). An empirical examination of factors influencing the intention to use mobile payment. *Computers in Human Behavior*, *26*(3), 310-322. https://doi.org/10.1016/j.chb.2009.10.013

Lu, Y., Zhou, T., & Wang, B. (2009). Exploring Chinese users' acceptance of instant messaging using the theory of planned behavior, the technology acceptance model, and the flow theory. *Computers in Human Behavior*, *25*(1), 29-39. https://doi.org/10.1016/j.chb.2008.06.002

Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, *52*(1), 5-44. https://doi.org/10.1257/jel.52.1.5

MasterCard. (2020). MasterCard Impact Study: The Rise of Digital Payments in Southeast Asia. MasterCard.

Mustafa, M.A., Singh, J.S.K., & Ahmad, N.B. (2022). The adoption of e-wallet by generation Z in Kuala Lumpur, Malaysia. *Electronic Journal of Business and Management*, *7*(2), 51-67.

New Straits Times (2021). E-wallet use in Malaysia growing. Retrieved from https://www.nst.com.my/opinion/columnists/2021/04/683345/e-wallet-use-malaysia-growing

O. Pappas, I., G. Pateli, A., N. Giannakos, M., & Chrissikopoulos, V. (2014). Moderating effects of online shopping experience on customer satisfaction and repurchase intentions. *International Journal of Retail and Distribution Management*, *42*(3), 187-204. https://doi.org/10.1108/IJRDM-03-2012-0034

Oliveira, T., Thomas, M., Baptista, G., & Campos, F. (2016). Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology. *Computers in Human Behavior*, *61*, 404-414. https://doi.org/10.1016/j.chb.2016.03.030

Oppotus. (2023). How COVID-19 shaped the e-wallet landscape in Malaysia. Retrieved from https://www.oppotus.com/how-covid-19-shaped-the-e-wallet-landscape-in-malaysia/

Pal, D., & Vanijja, V. (2020). Perceived usefulness, user satisfaction, and intention to use digital payment systems during COVID-19 lockdown: An empirical study. *Journal of Theoretical and Applied Electronic*

Commerce Research, *15*(1), 52-70. https://doi.org/10.4067/S0718-18762020000100105

Purani, K., Kumar, D.S., & Sahadev, S. (2019). eLoyalty among millennials: Personal characteristics and social influences. *Journal of Retailing and Consumer Services*, *48*, 215-223. https://doi.org/10.1016/j.jretconser.2019.02.002

Rahadi, R., Nainggolan, Y., Afgani, K., Yusliza, M., Faezah, J., Ramayah, T., … & Angelina, C. (2022). Towards a cashless society: use of electronic payment devices among generation Z. *International Journal of Data and Network Science*, *6*(1), 137-146. https://doi.org/10.5267/j.ijdns.2021.11.012

Rahman, M., Ismail, I., & Bahri, S. (2020). Analysing consumer adoption of cashless payment in Malaysia. *Digital Business*, *1*(1), 100004. https://doi.org/10.1016/j.digbus.2020.100004

Raihan, A., & Said, M.N.M. (2022). Cost–benefit analysis of climate change mitigation measures in the forestry sector of Peninsular Malaysia. *Earth Systems and Environment*, *6*(2), 405-419. https://doi.org/10.1007/s41748-022-00278-5

Raihan, T., & Rachmawati, I. (2019). Analyzing factors influencing continuance intention of e-wallet adoption using UTAUT 2 model (a case study of Dana in Indonesia). *eProceedings of Management*, *6*(2), 3717-3724. https://openlibrarypublications.telkomuniversity.ac.id/index.php/management/article/view/9366

Seetharaman A., Kumar K.N., Palaniappan S., Weber G. (2017). Factors influencing behavioral intention to use the mobile wallet in Singapore. *Journal of Applied Economics and Business Research*, *7*(2), 116–136.

Singh N., Sinha N., Liébana-Cabanillas F. J. (2020). Determining factors in the adoption and recommendation of mobile wallet services in India: Analysis of the effect of innovativeness, stress to use, and social influence. *International Journal of Information Management*, *50*, 191–205. https://doi.org/ 10.1016/j.ijinfomgt.2019.05.022

Slade, E.L., Dwivedi, Y.K., Piercy, N.C., & Williams, M.D. (2015). Modeling consumers' adoption intentions of remote mobile payments in the United Kingdom: Extending UTAUT with innovativeness, risk, and trust. *Psychology and Marketing*, *32*(8), 860-873. https://doi.org/10.1002/mar.20823

Statista. (2024). Malaysia: Leading E-Payment Services.

Suls, J., & Wallston, K. A. (Eds.). (2008). *Social Psychological Foundations of Health and Illness*. John Wiley & Sons. https://doi.org/10.1002/9780470753552

Teng, S., & Khong, K.W. (2021). Examining actual consumer usage of E-wallet: A case study of big data analytics. *Computers in Human Behavior*, *121*, 106778. https://doi.org/10.1016/j.chb.2021.106778

Teoh Teng Tenk, M., Yew, H.C., & Heang, L.T. (2020). E-wallet adoption: A case in Malaysia. *International Journal of Research in Commerce and Management Studies*, *2*(2), 216-233.

The Star. (2020, June 12). Boost supports government's e-wallet initiatives. Retrieved July 1, 2023, from https://www.thestar.com.my/business/business-news/2020/06/12/boost-supports-governments-e-wallet-initiatives

The Sun. (2020). E-Wallet: Government's aspiration towards a cashless society. Retrieved from https://www.thesundaily.my/home/E-Wallet-government-s-aspiration-towards-a-cashless-society-FC2026788

Thompsett, N. (2023). Achieving net-zero: A fintech priority. Fintech Magazine. Retrieved from https://fintechmagazine.com/articles/achieving-net-zero-a-fintech-priority

Tun-Pin, C., Keng-Soon, W.C., Yen-San, Y., Pui-Yee, C., Hong-Leong, J.T., & Shwu-Shing, N. (2019). An adoption of fintech service in Malaysia. *Southeast Asia Journal of Contemporary Business*, *18*(5), 134-147.

Tusyanah, T., Wahyudin, A., & Khafid, M. (2021). Analyzing factors affecting the behavioral intention to use e-wallet with the UTAUT model with experience as moderating variable. *Journal of Economic Education*, *10*(1), 113-123.

Venkatesh, V., Thong, J.Y., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 157-178. https://doi.org/10.2307/41410412

Weir, C.S., Anderson, J.N., & Jack, M.A. (2006). On the role of metaphor and language in design of third party payments in eBanking: Usability and quality. *International Journal of Human-Computer Studies*, *64*(8), 70-784. https://doi.org/10.1016/j.ijhcs.2006.03.004

Woetzel, J., Seong, J., Wang, K.W., Manyika, J., Chui, M., & Wong, W. (2018, March 19). China's digital economy: A leading global force. McKinsey & Company. Retrieved from https://www.mckinsey.com/

featured-insights/china/chinas-digital-economy-a-leading-global-force

Zarmpou, T., Saprikis, V., Markos, A., & Vlachopoulou, M. (2012). Modeling users' acceptance of mobile services. *Electronic Commerce Research*, *12*(2), 225-248. https://doi.org/10.1007/s10660-012-9092-x

Zhipeng, W. (2022). Acceptance of e-wallet among mobile phone users in China. *Journal of Digitainability, Realism & Mastery (DREAM)*, *1*(01), 35-40.

Zhou, M., Rajamohan, S., Hedrick, V., Patiño, S., Abidi, F., Polys, N., … & Kraak, V. (2019). Mapping the celebrity endorsement of branded food and beverage products and marketing campaigns in the United States, 1990–2017. *International Journal of Environmental Research and Public Health*, *16*(19), 3743. https://doi.org/10.3390/ijerph16193743

Zhou, T. (2011). Understanding mobile internet continuance usage from the perspectives of UTAUT and flow. *Information Development*, *27*(3), 207-218. https://doi.org/ 10.1177/0266666911414596

Senik, Z.C., Jamaludin, N.A., & Isa, R.M. (2022). Exploring social capital influencing entrepreneurial process among immigrant entrepreneurs in Malaysia. *Jurnal Pengurusan*, *65*, 59-69. https://doi.org/10.17576/pengurusan-2022-65-05