Electronic Journal of Business and Management
Vol.8 Issue 3, 2023 pp. 25-48
e-ISSN:2550-1380-ISSN

Influential Factors Shaping eWallet Adoption Among Malaysia's Generation Y

Poh Kiong Tee
Asia Pacific University of Technology and Innovation

Mutia Anggeraini Khalid
Asia Pacific University of Technology and Innovation

Shehzad Ahmed
Asia Pacific University of Technology and Innovation

Morakinyo Dada
Asia Pacific University of Technology and Innovation
morakinyo@apu.edu.my

Abstract

The popularization of mobile devices such as smartphones has made the eWallet growing important in today's marketplace. Therefore, there is a need to investigate the factors that affect the adoption of eWallet among people in Malaysia. Specifically, four main factors such as perceived price (ability to pay), convenience, transaction cost and security, have been identified for further study. 125 responses were collected from Gen Y who are located in Klang Valley and 100 responses were used for data analysis. The findings revealed that all four factors significantly influenced the adoption of eWallet, and the perceived price has the highest impact, followed by security, convenience and lastly transaction cost. The findings of this study are practically relevant for the service providers, finance institutions as well and policymakers to develop the relevant strategies for the promotion of eWallet payments.

Keywords: *eWallet, perceived price, convenience, transaction cost, security, adoption*

1.0 Introduction

At present, connectivity is a significant part of day to day lives of every individual, people are connected to the internet through various devices mobile phones, tablets, laptops or computers (Wong et al., 2023a). The scenario was predicted that cash would not be used in the future, and it is being implemented by e-wallets where an account is made, it is topped up and transaction takes place through it and smartphones and mostly known as it is widely used and is portable and convenient to use on the go. The amount of smartphone users has increased due to increasing competition which has led to affordability as well which makes it easier for consumers to own a phone and a connection to the internet (Tee et al., 2023). It is revealed by

research from strategy analytics that in the whole world about 1 billion smartphones are being used. In 2021, mobile phone internet users have increased to 20.5 million in Malaysia (The Star, 2021).

A penetration of 1 out of 7 in Malaysia, while the highest penetration is 1 out of 4 which is 17.3% of users are aged basically from 20-24 years old. In Malaysia number of smartphone users will be 20.5 million in 2021 (Statista, 2022). The perception of mobile phones has changed and does not only stand for calling and texting but can be used for downloading applications, socializing, GPS location and gaming which has increased the purchase of mobile phones. A survey by Ericsson in 2014, predicted that smartphone adoption is expected to increase by 700 million users in Southeast Asia and Oceania from 2013 to 2019 (Goh, 2013). Users of e-wallets have increased with connection to mobile internet users due to applications like GrabPay offering impressive deals. As for normal booking of trains, only 20% use other payment methods like credit card and online booking (Tee et al., 2014).

Due to the advancement of technology, mobile phones can help to make it easier to transact money instead of searching for an ATM or standing in a long line. Features such as transaction receipts, boarding passes, bills, vouchers and business cards are easily accessible through mobile phones which makes it an electronic wallet, digital wallet or mobile wallet. E-wallet is integrated through mobile phone applications which enable users to make payments electronically without paper cash and it is done through NFC, QR code, SMS or application transfer or payment like WeChat or GrabPay. The factors which determine e-wallet usage are equally or more important as firms need to understand how implementing would be beneficial for both the organization and customers. It could help in satisfying customers and empower firms to access better business opportunities.

1.1 Statement of Problem

In Malaysia, the use of cash is highly prevalent when it comes to purchasing train tokens. According to a 2019 report from The Star, 80% of people use physical cash, while only 20% opt for alternative payment methods. Within this 20%, 10% utilize credit cards, and the remaining 10% make online bookings. Past research underscores the significance of customer decisions for organizations. Consumer intentions and preferences are evolving, particularly with regard to mobile phone technology, especially among young adults (Kim et al., 2010). At a university, over half of the population owns a mobile phone, and among them, 60% are addicted to their phones, with 75% keeping their phones by their side while sleeping. Furthermore, 40% of students use their mobile phones for studying before exams, 88% for texting, and 97% for social networking (Goh, 2013). This suggests that understanding the factors influencing customer intentions, particularly among younger generations, could lead to the adoption of e-wallets, ultimately advancing Malaysia digitally, similar to China's progress.

Historically, researchers have examined the complexities of the relationships between factors influencing consumer decisions. The e-wallet market has witnessed continuous changes and developments, with new e-wallets being introduced each year to outperform competitors by offering new features or tailoring services to specific stores. For instance, GrabPay is a notable example. The evolution of e-wallets has had a significant impact on users, particularly the younger generation, affecting their motivations and choices. Users cannot rely on a single application for all their needs, and often, they use applications primarily during promotional periods. These developments lead to the following research questions:

1. How does perceived price affect the consumer decision process in the adoption of an e-wallet by Gen Y in Malaysia?
2. Why does convenience affect the consumer decision process in the adoption of an e-wallet by Gen Y in Malaysia?
3. In what way does the transaction process affect the consumer decision process in the adoption of an e-wallet by Gen Y in Malaysia?
4. How can security affect the consumer decision process in the adoption of an e-wallet by Gen Y in Malaysia?

2.0 Literature Review

2.1 E-Wallet and Generation-Y (Gen-Y)

An e-wallet functions similarly to a credit or debit card, linking to a specific user's bank account. This service helps reduce waiting times and technical difficulties encountered at automatic teller machines (ATMs), allowing individuals to conduct online transactions via their personal computer, tablet, or smartphone. It is essentially a prepaid account, with money already stored, and the account is protected by a user-set password. E-wallets can be used to make payments for groceries, petrol stations, flight tickets, and other online transactions (Taheam et al., 2016). For example, Google Wallet was established in 2011, followed by other organizations like WeChat Pay and Alipay, which came to dominate the Chinese market in 2018. Alipay, in particular, was introduced in 2004 (Batra & Kalra, 2016; Bigdata Research, 2018).

Millennials, also known as Generation-Y (Gen-Y), grew up in a more financially stable environment and are perceived as better educated, self-assured, positive, innovative, and entrepreneurial. Gen Y individuals are the focus of marketers, as they possess practical knowledge about the market and substantial purchasing power, with annual incomes totalling USD 211 billion and annual savings of USD 39 billion. Their population is much larger than that of Generation X (Wolburg & Pokrywczynski, 2001). According to the Department of Statistics, in 2010, individuals aged 15 to 34 comprised 38.2% of the population, totalling more than 10 million people.

2.2 Adoption Concept – Innovation Diffusion Theory

This research employs the Diffusion of Innovation theory, in which the act of adopting a new technology or idea is seen as a positive step toward embracing change and being open to something out of the ordinary. Those who choose to adopt a product or service are referred to as "adopters," while those who are still undecided about using the product are known as "non-adopters." People who actively reject the innovation are termed "rejecters" (Kijek & Kijek, 2010).

This process is commonly known as the Technology Adoption Decision Process and consists of five stages. In knowledge stage, individuals become aware of the innovation and understand its features and potential benefits for themselves or their organizations (Lai, 2017). To promote the acceptance of an e-wallet, it is essential to establish its recognition and credibility, showcasing its usefulness through means such as advertising, customer testimonials, seminars, or instructional videos. Offering special price promotions, convenience in terms of usability

anywhere and anytime, a swift transaction process, and a strong focus on security can all enhance the e-wallet's image in the eyes of consumers (Revathy & Balaji, 2020).

During the persuasion stage, individuals develop attitudes, which can be either positive or negative, towards the innovation. The message conveyed is crucial in shaping an individual's perception and attitude towards innovation. It is important to obtain information from reliable sources, as misinformation or biased content can lead to negative attitudes. An e-wallet, by offering convenience, security, and promotional benefits, can create a positive image, which can persuade individuals to adopt it. At the decision stage, individuals must decide whether to integrate the innovation into their lives by trying it out or using it. Those who decide to embrace the innovation become adopters, while those who do not are considered rejecters. It is crucial to evaluate and experiment with the innovation to determine its usefulness in unforeseen situations or how it can enhance convenience.

The implementation stage involves individuals using the innovation in their daily lives and seeking technical information for its successful integration (Kijek & Kijek, 2010). Customers are likely to have questions about the innovation, especially if it is a new and different concept. Once the innovation is routinely used in the daily lives of adopters, it marks the completion of the implementation stage and leads to the conclusion of the innovation decision process for the majority of users. However, some may alter their opinions or attitudes, potentially extending the process to the confirmation phase (Venkatesh et al., 2012). Lastly, the confirmation stage, innovation is perceived as an essential tool for personal or group advancement and convenience, and individuals solidify their decision to adopt it. However, opinions can still change due to inconsistent messaging or incompatibility with the innovation over time, especially if it is considered highly advanced (Venkatesh et al., 2012).

2.3 Perceived Price

Price represents the amount of money charged for a product or service or the total value that customers exchange for the benefits of possessing or utilizing the product or service (Lee et al., 2022). A consumer willing to pay a certain amount of money for a valuable product or service is referred to as a price-conscious individual. The perception of the value of money varies among different people. For instance, one customer may consider a product to be worth a higher price, while another customer may not find it to be a good value for their money. Various pricing methods are employed, such as promotional pricing, perceived-value pricing, markup pricing, going rate pricing, and target-return pricing (Kotler & Keller, 2016).

To increase customers' purchase intentions, promotional pricing strategies can be employed. For instance, when the discount rate is high, it should be presented as a percentage. When the discount rate is low, it should be presented as its actual value (Lee et al., 2022). In the business world, retailers often offer lower prices to attract more customers, influence purchasing decisions, and build relationships (Yang et al., 2023). Price is a well-known factor that can impact consumers' decisions regarding the adoption and use of e-wallets in Malaysia.

For e-wallet services, pricing can be set lower, as individuals may find the application or software more appealing, especially when certain transactions, like SMS transactions, are free. While banks charge reasonable fees for providing specific services, e-wallet providers should also implement reasonable fees and charges to capture a broad market share of mobile users (Aji et al., 2020). Smart consumers swiftly explore available services for their convenience and performance benefits, as well as price comparisons (Chia et al., 2019). New e-wallet providers

often offer incentives and promotions to attract and retain customers, fostering customer relationships and encouraging e-wallet adoption for various transactions.

H1: There is a relationship between the perceived price and the adoption of e-wallets by Generation Y in Malaysia.

2.4 Convenience

A good or service offered to a customer, with the belief that it will facilitate navigation and transactions easily and effortlessly (Chia et al., 2019). An organization aiming to produce a product that enhances user-friendliness, leading to increased production volume and user adoption, rather than focusing solely on improving product features to boost profits. Every business must prioritize customer satisfaction, as it is a crucial factor in fostering loyalty and increasing the usage of a product or service, which positions the organization at the forefront. The innovative concept of the e-wallet emerged as a solution to the inconvenience of having to seek out an ATM or bank when running out of money. This innovation alleviates the stress of travel and facilitates payments from anywhere and at any time.

The e-wallet's unique selling proposition lies in its ability to enable exchanges and transactions from any location, at any time, due to its portability and ease of access (Subaramaniam et al., 2020). In today's fast-paced world, people prefer swift solutions, and the e-wallet expedites services, saving both time and money, thus influencing consumers' decisions to adopt and use it. The software or application can be downloaded on various portable devices such as mobile phones and tablets, and payments can be made by scanning a QR code or entering a pin for confirmation. These transactions are securely authenticated, and the details are recorded for future reference. This process eliminates the need for customers to stand in queues, wait for change, or search for loose change, resulting in a faster, more convenient experience that enhances customer satisfaction and organizational performance.

H2: There is a relationship between convenience and the adoption of e-wallets among Generation Y in Malaysia.

2.5 Transaction process

A systematic procedure involving multiple steps, such as receiving a code, verifying the amount, and confirming the code, is essential for efficient point-of-sale transactions or exchanges (Kim et al., 2010). The transaction process must be convenient, quick, and reliable, which aligns with the reputation of e-wallets. Any failure in a single step of the procedure can lead to consumer doubts about the product or service, potentially resulting in a negative image, and necessitating a restart.For a system to operate effectively and gain accreditation, it must pass the ACID test, which consists of factors like atomicity, consistency, isolation, and durability. Systems that serve numerous users across multiple servers, hardware, software, and computers must ensure proper data recording, correct information placement, generation of unique passwords and PINs, and routine checks to satisfy customers and maintain smooth software operation (Dembla et al., 2007).

Many e-wallet options have emerged in Malaysia since 2017, including Alipay, GrabPay, and WeChat. These platforms collaborate with banks to enable direct money transfers from bank accounts. Some platforms have established direct connections with specific organizations, while others are open to all. This transfer of money into the software or application allows

electronic spending, eliminating the need for physical cash. Customers benefit from the convenience of paying for various expenses like internet bills, electricity bills, ride bookings, and online transactions for goods (Batra & Kalra, 2016). Payments can be made easily without concerns about deception or the theft of information or money.

H3: There is a relationship between the transaction process and the adoption of e-wallets by Gen Y in Malaysia

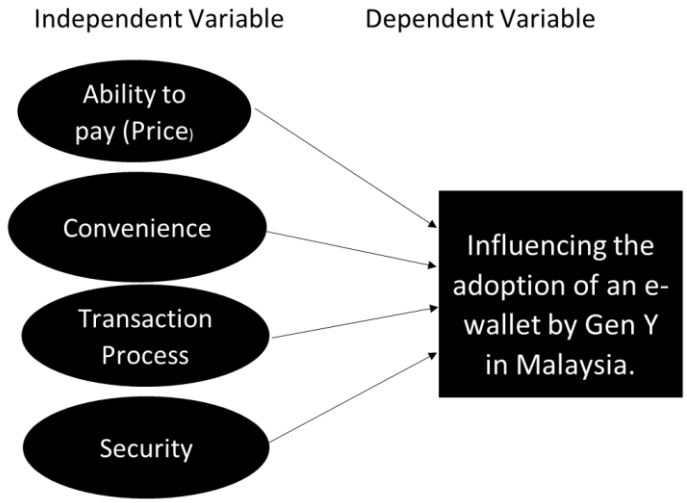
2.6 Security

Protection and prevention of identity theft, fraud, invasion, and theft, which are intentionally caused, are also known as the levels of authentication, authorization, and privacy related to electronic information and payments (Wong et al., 2023b). Security is of paramount importance for software that primarily deals with payments, especially if it gains rapid acceptance by consumers (Osman, 2005). The perception of security encompasses six aspects: authentication, authorization, accessibility, non-repudiation, confidentiality, and integrity (Tee et al., 2022).

While the application itself is protected, the device also needs to be secured since information can be easily accessed from it. Users should be advised to ensure that their phones are not tampered with by hackers or others. The organization must emphasize the importance of authorization, privacy, and authentication (Wong et al., 2023b) to expand its customer base. This will encourage people to adopt and use an e-wallet while alleviating the concerns of existing customers and increasing their confidence. E-wallet payments offer a high level of security, as they do not transmit payment card details to the website. These virtual wallets also allow users to lock their wallets, which promotes the adoption of e-wallets (Kabir et al., 2017).

H4: There is a relationship between the adoption of e-wallet security by Gen Y in Malaysia.

Research Framework



3.0 Research Methodology

The quantitative approach was chosen for this research topic due to time constraints. The research was conducted in the Klang Valley region of Malaysia. Questionnaires were distributed both online and in-person to 125 individuals selected for convenience. The questionnaire was divided into three parts: Sections A, B, and C. Section A consisted of general questions regarding demographic factors such as gender, age group, educational level, income, and allowance levels. Sections B and C contained questions related to dependent and independent variables. The questionnaire included nominal scale questions that required respondents to answer with "yes" or "no," ordinal scale questions that asked respondents to rank their preferences, and interval and ratio scale questions. Likert scale was employed to assess how strongly the subjects agreed or disagreed with statements, using a five-point scale.

4.0 Data Analysis and Interpretation

During the primary data collection phase, a total of 125 questionnaires were distributed both physically and via email to eligible respondents. Ultimately, 100 questionnaires were successfully collected, resulting in a response rate of 80%.

4.1 Demographic Analysis

As per the findings of 100 samples. 66% are male and the rest 34% are females. On the term of age group, there are 52% of respondents aged between 22-27. 38% of respondents are aged between 28-34 while the rest 10% are respondents aged between 35-40. It shows that the majority of the respondents are at the early stage of Generation Y. This could be due to the part of the data collection is conducted in colleges, and most students are in this age range.

Figure 1: Gender

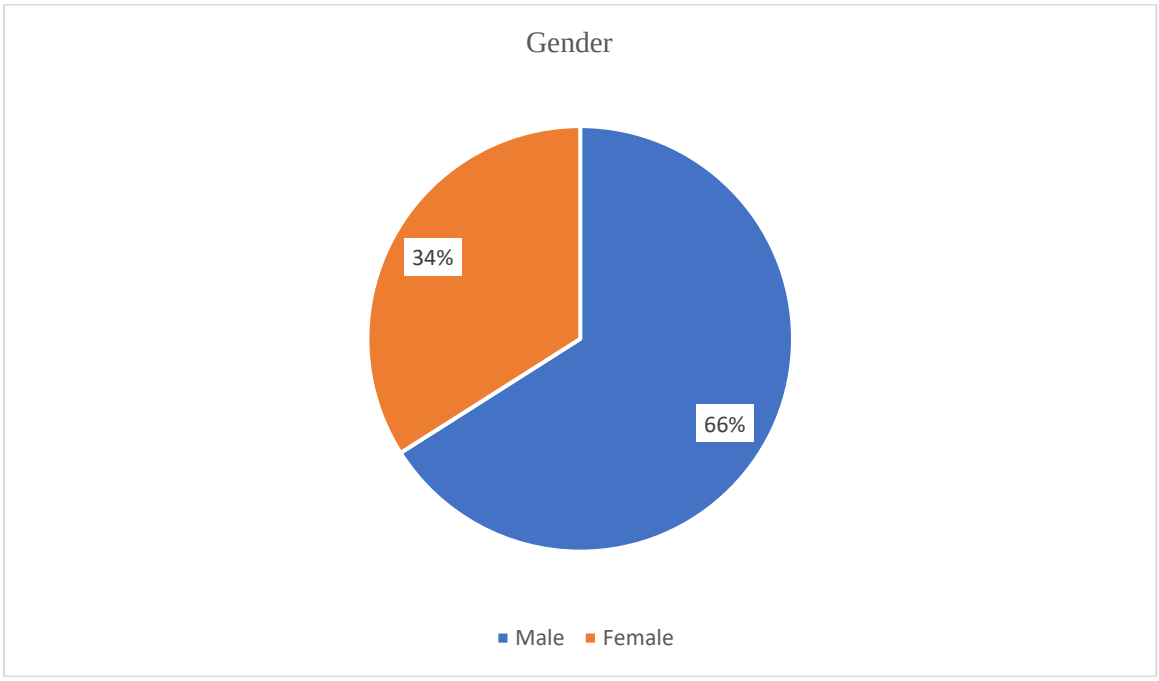
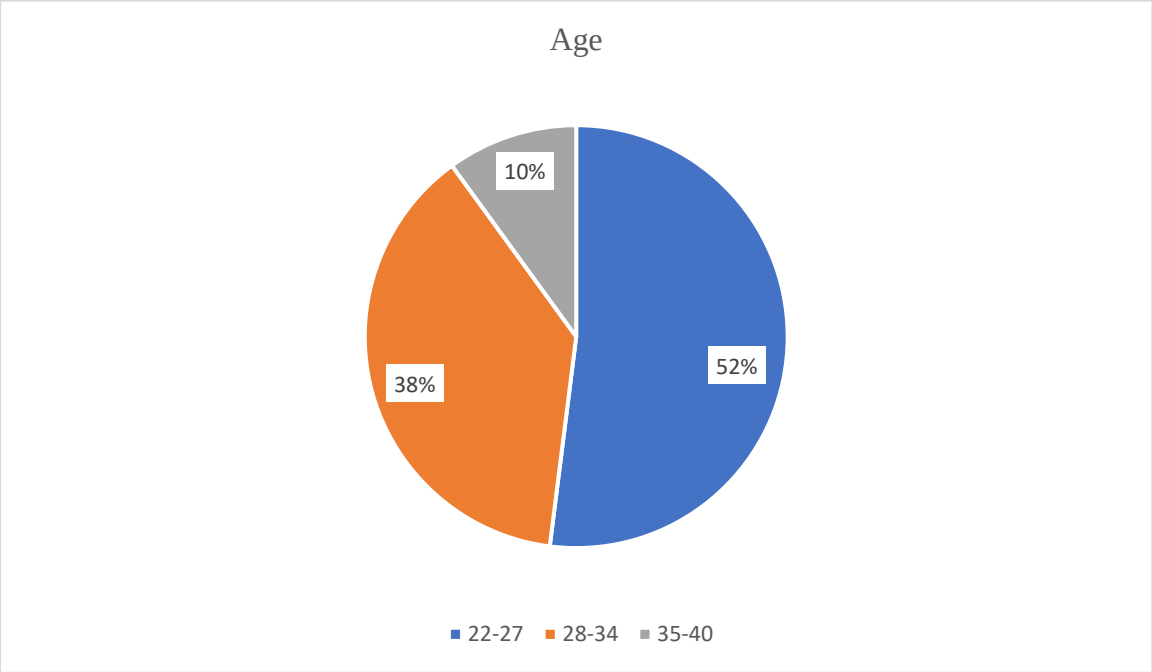
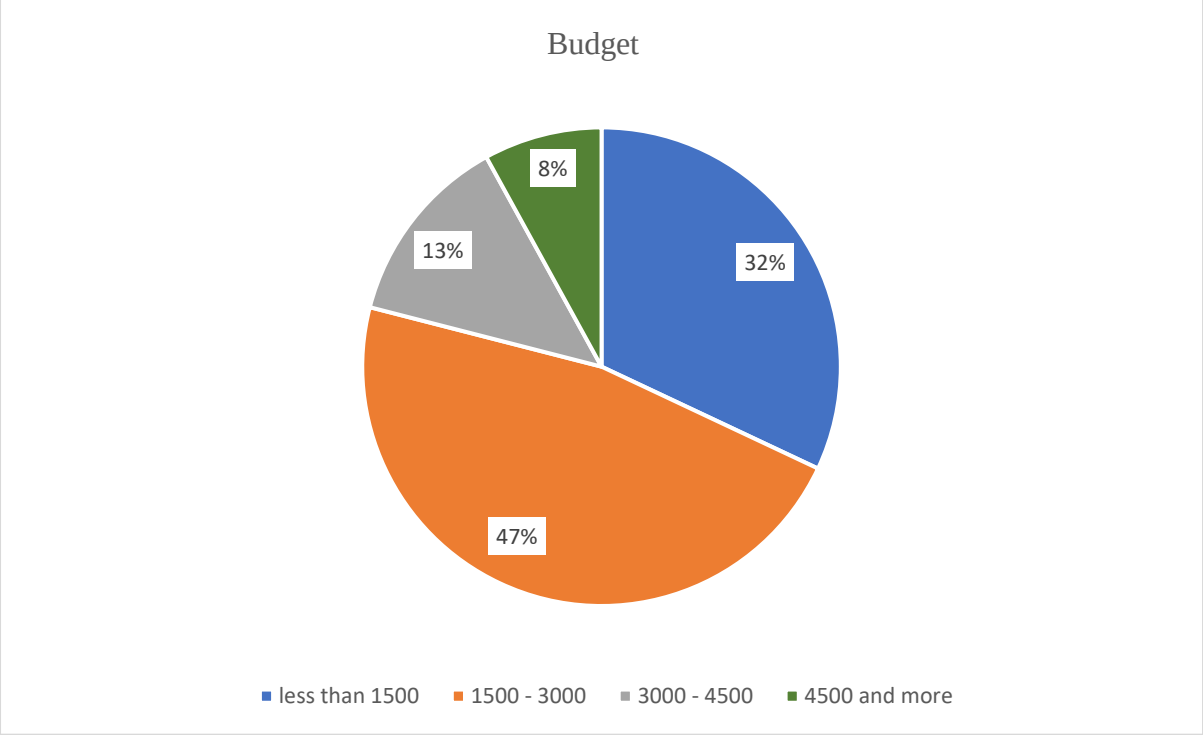


Figure 2: Age



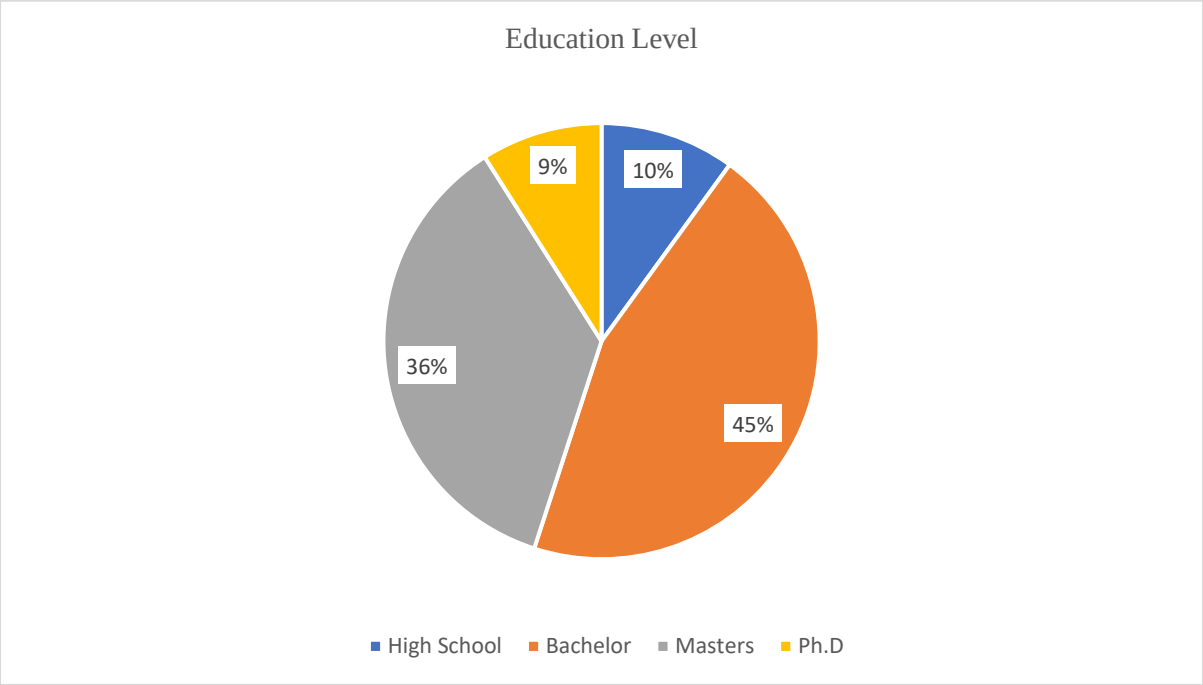
Based on income levels, approximately 32% of individuals earn less than 1500. About 47% of people earn between 1500 and 3000, while 13% fall within the income range of 3000 to 4500. Those earning 4500 or more make up 8% of the population. The majority of respondents fall within the 1500 to 3000 income range, primarily because many members of Generation Y are either still in school without income or are recent graduates earning entry-level salaries.

Figure 3: Income



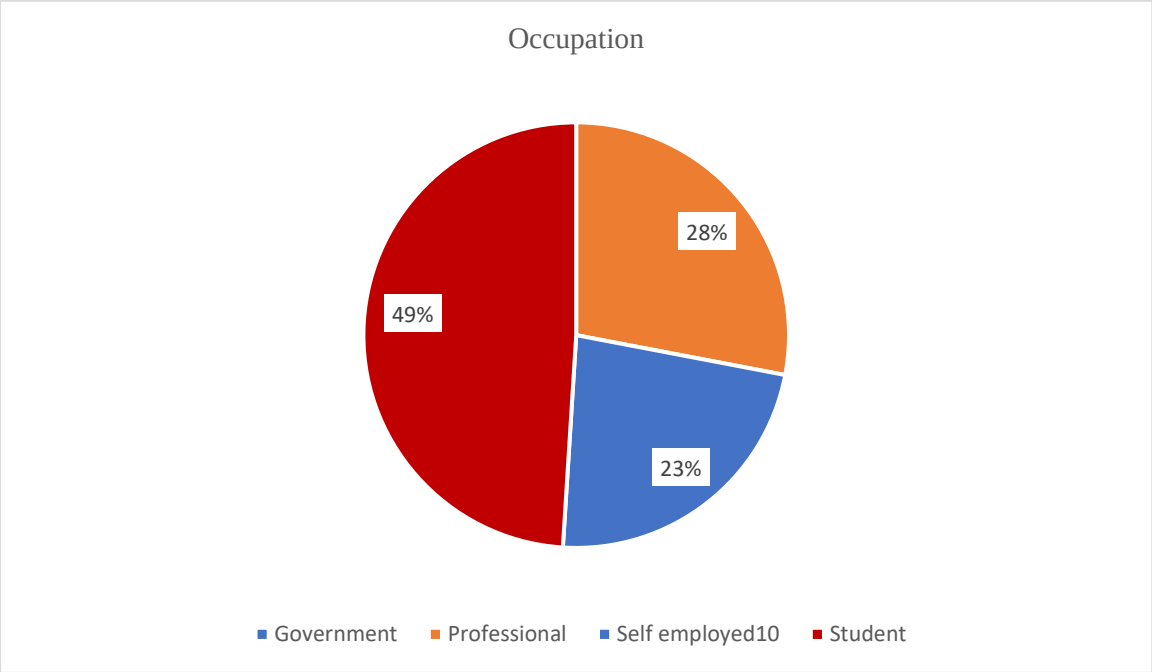
When referring to the education levels of the respondents, we find that 10% of them are high school graduates, 45% have either graduated or are currently pursuing a Bachelor's degree, and 36% have either graduated or are currently pursuing a Master's degree. Additionally, we have 9% who have either graduated or are currently pursuing a Ph.D.

Figure 4: Education Level



The findings also reveal the occupation of the respondents, with only 49% being students. The professional field comprises 28%, while self-employed individuals make up approximately 23%. Students constitute the majority at 49%, which corresponds to the income level.

Figure 5: Occupation



4.2 Characteristics Related to Respondent and E-Wallet

The questions in Section B measure the characteristics of the respondents related to e-wallet usage. Out of 100 respondents, 24% use e-wallets very often, 45% use them rarely, and 1% have never used them. Additionally, 6% have resorted to using an e-wallet when they run out of cash, while another 24% use it for online transactions. Respondents' budget ranges vary depending on their income. The majority of respondents, approximately 57%, have chosen a budget range of 50 - 200. The second most selected range is below 50, with 20% of respondents opting for it. The range of 200 - 400 is chosen by 14%, and 9% have budgets of 400 or more. This indicates that people believe in the potential of e-wallet adoption, and with the emergence of new technologies, it may become even more popular in the coming years.

Nowadays, people use various e-wallets for different purposes, such as taking advantage of special offers or specific services. Some individuals have two or more e-wallets, each serving a distinct purpose, such as shopping, transportation, or food. Approximately 55.5% of respondents have only one e-wallet application, while 35.4% have two e-wallet applications. Additionally, 9.1% have more than two e-wallet applications.

Figure 6: E-wallet Budget

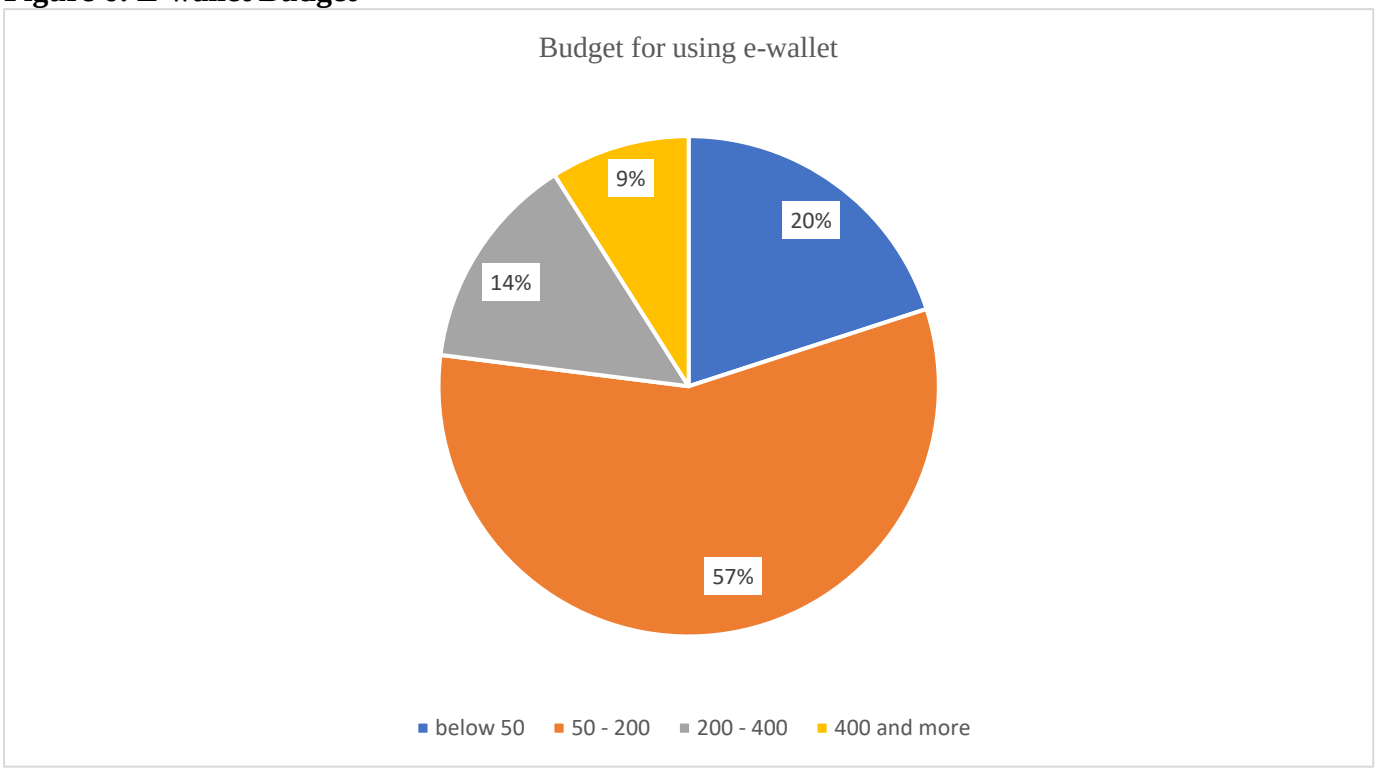


Figure 7: E-wallet Usage

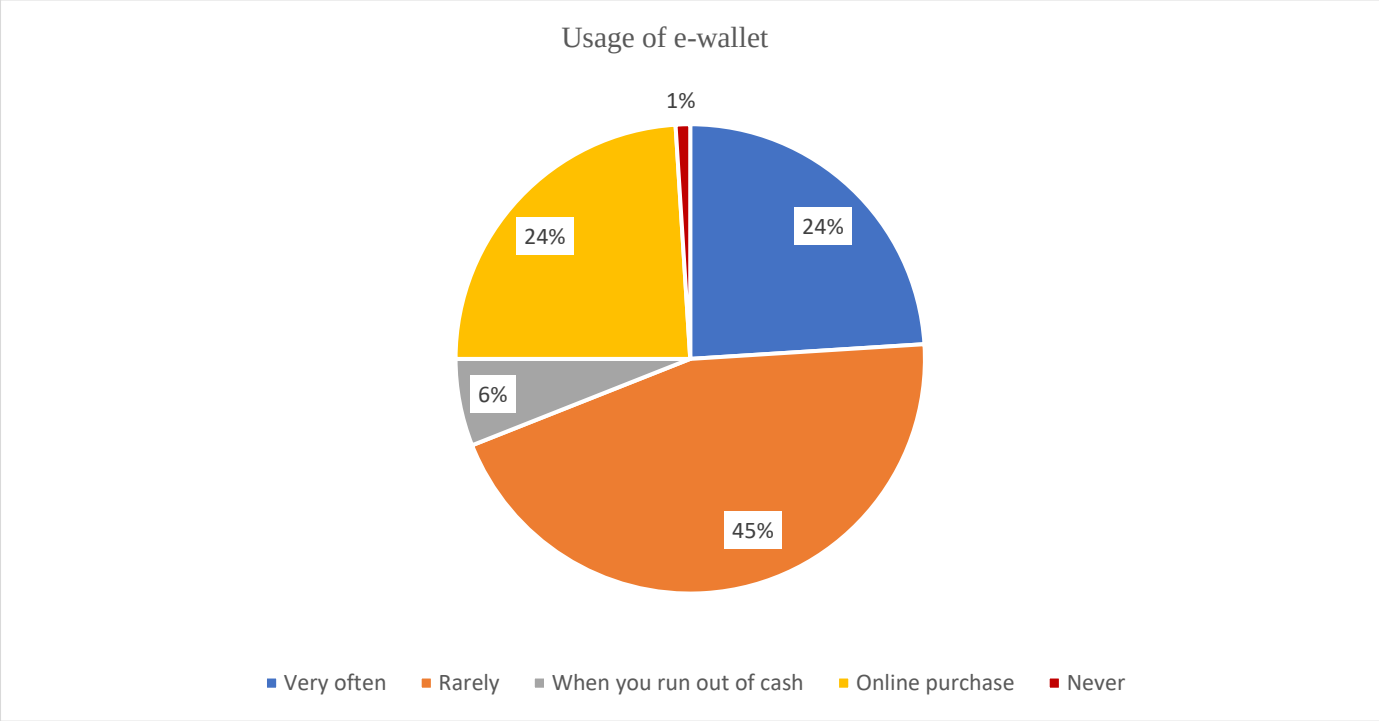


Figure 8: Number of E-wallets Used

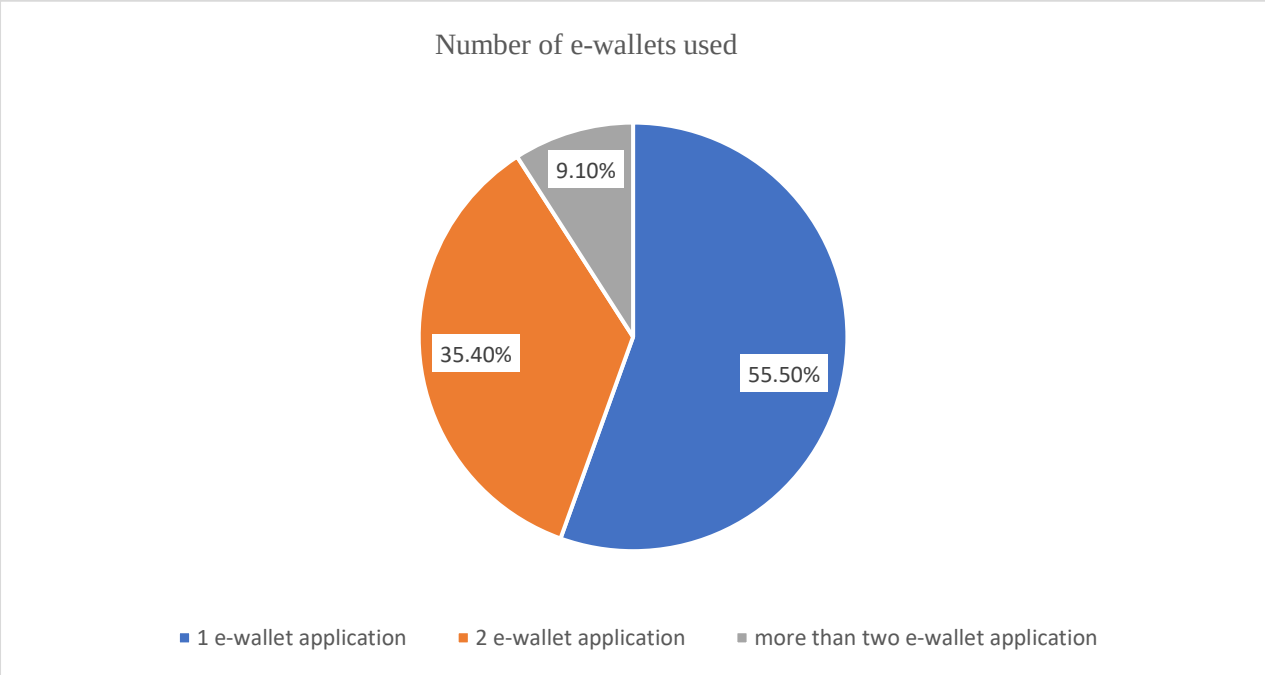


Table 1 illustrates how the respondents perceive various e-wallet applications. The selected e-wallet apps are the top 5 in the Malaysian market: PayPal, WeChat, Boost, AliPay, and GrabPay. Approximately 48% of the respondents ranked PayPal as their first choice, with 23% placing it in the second position. About 10% ranked it third, 11% fourth, and 8% fifth. WeChat, one of the newest entrants in the Malaysian market, received 1% of first-place rankings, 32% for second place, 34% for third place, 27% for fourth place, and 6% for fifth place. Boost was

favoured as the first choice by 8% of respondents, 8% for second place, 18% for third place, 11% for fourth place, and 55% for fifth place.

GrabPay, one of the leading e-wallet applications in Malaysia, received first-place rankings from 40% of respondents, 21% for second place, 12% for third place, 7% for fourth place, and 21% for fifth place. AliPay, a globally recognized Chinese e-wallet application, garnered 3% of first-place rankings, 16% for second place, and 26% for third place, while 44% ranked it fourth and 10% ranked it fifth. It's worth noting that Boost was generally perceived as a less favourable e-wallet application, with the majority of respondents (55%) ranking it last. On the other hand, PayPal was considered the top choice, with 48% of respondents ranking it first. GrabPay held the second position in the market, with 40% of respondents ranking it second.

Table 1: Statistics

Factors	Frequency	Percentage
How often do you use an e-wallet?		
Very often	24	24%
Rarely	45	45%
When you run out of cash	6	6%
Online purchase	24	24%
Never	1	1%
Budget Range for using an e-wallet		
50 and below	20	20%
50 – 200	57	57%
200-400	14	14%
400 and more	9	9%
How many e-wallet applications do you use?		
1 e-wallet application	55	55.5%
2 e-wallet application	34	34.4%
More than 2 e-wallet application.	9	9.1%

Table 2: Brands

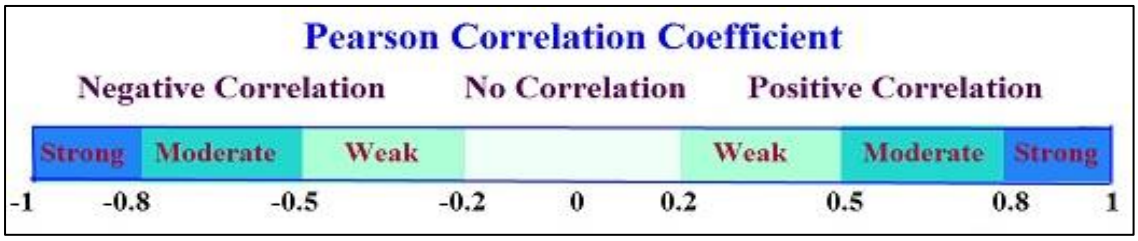
Brand	1	2	3	4	5
PayPal	48 (48%)	23 (23%)	10 (10%)	11 (11%)	8 (8%)
WeChat	1 (1%)	32 (32%)	34 (34%)	27 (27%)	6 (6%)
Boost	8 (8%)	8 (8%)	18 (18%)	11 (11%)	55 (55%)
AliPay	3(3%)	16 (16%)	26 (26%)	44 (44%)	10 (10%)
GrabPay	40 (40%)	21 (21%)	12 (12%)	7 (7%)	21 (21%)

4.3 Correlation Method

The linear relationship between two variables can be described or measured using the Pearson Product Moment Correlation method, often denoted as "r." This method is selected to assess the strength of the relationship. In contrast, Spearman's Rank Order Correlation is similar to the Pearson Product Moment Correlation but in a non-parametric version, which is utilized to measure the strength and direction of a monotonic relationship between two variables.

The Pearson Correlation Coefficient is represented by the symbol "r," indicating correlation. A scale ranging from -1 to 1 is employed to determine the degree of association between two variables. When the value of "r" is -1, the correlation is negative, and if it is +1, the correlation is positive, indicating a relationship between the two variables. Each independent variable undergoes correlation testing individually. The test will reveal the strength of the relationship between the variables and whether to accept or reject the null hypothesis.

Figure 9: Pearson Product Correlation Coefficient Scale



4.4 Hypothesis Testing

4.4.1 Hypothesis 1

The hypothesis aims to examine the connection between the independent variable and the dependent variable. Specifically, it seeks to determine whether the perceived price influences the purchasing decision of Generation Y to embrace an e-wallet. This hypothesis will provide insights into how the perceived price impacts the adoption of e-wallets by Generation Y in Malaysia. Based on data obtained from a questionnaire, it was found that 53% of respondents strongly agreed, and 42% of respondents agreed that product specials and discounts can attract customers to adopt an e-wallet. To assess this hypothesis, a correlation test was conducted to assess the relationship between perceived price and e-wallet adoption.

Null Hypothesis (H0): There is no relationship between perceived price and e-wallet adoption among Generation Y in Malaysia.

Alternative Hypothesis (H1): There is a relationship between perceived price and e-wallet adoption among Generation Y in Malaysia.

Table 3 displays the results of the correlation coefficient test between the independent variable (price) and the dependent variable (e-wallet adoption) based on the calculated correlation coefficient value (r).

The alpha value, generated using the Pearson Product Correlation Method, yielded a value of r = 0.407. This suggests a weak positive correlation between perceived price and e-wallet adoption among Generation Y in Malaysia. Additionally, the p-value is 0.00, indicating that the null hypothesis should be rejected, and the alternative hypothesis, "Perceived price and e-wallet adoption among Generation Y in Malaysia," should be accepted.

Previous studies have shown that special offers and discounts play a significant role in encouraging individuals to adopt or use a product or service. People are motivated to save as much as possible, and this is one of the factors influencing mobile commerce in Singapore as well (Anil et al., 2003). To successfully penetrate the market with e-wallets, individuals must have a certain level of income, and since a significant portion of the Malaysian population falls into the middle-class category, this can potentially boost the adoption rate.

Table 3: Hypothesis Pearson Product Correlation Test

		Adoption of an e-wallet by Gen Y in Malaysia.
Perceived price	Pearson Correlation	.407*
	Sig. (2-tailed)	.000
	N	100
	Spearman's rho Coefficient	.403*
	Sig. (2-tailed) *(P-Value)*	.000
	N	100

*Correlation is significant at the 0.01 level (2-tailed)

4.4.2 Hypothesis 2

In this hypothesis, we will test the relationship between the independent variable "convenience" and the dependent variable "adoption of an e-wallet." This will help us address the question of whether "convenience plays a role in the adoption of an e-wallet by Gen Y in Malaysia." Data collected from the respondents indicated that 30% strongly agreed, and 56% of the respondents agreed that e-wallet adoption would be more frequent if it provided a record of their expenditures. Approximately 28% of the respondents strongly agreed, and 45% agreed that e-

wallets save time when the shop owner runs out of change or when people forget their wallets. Furthermore, 29% strongly agreed, and 44% of the respondents agreed that e-wallets can expedite the process, reducing the need to queue up at the cashier. All of these results suggest that convenience indeed plays a significant role in influencing the adoption of an e-wallet by Gen Y in Malaysia (Chen et al., 2019; Kim et al., 2010). Therefore, to test this hypothesis, we conducted a correlation test to determine the relationship between convenience and the adoption of an e-wallet.

Null Hypothesis (H0): There is no significant relationship between convenience and the adoption of an e-wallet by Gen Y in Malaysia.

Alternative Hypothesis (H1): There is a significant relationship between convenience and the adoption of an e-wallet by Gen Y in Malaysia.

Table 4 presents the results of the Pearson Correlation test for the independent variable "advertisement" and its influence on the adoption of an e-wallet, as indicated by the value of "r."

Table 4: Hypothesis Pearson Product Correlation Test

		Adoption of an e-wallet by Gen Y in Malaysia
Convenience	Pearson Correlation	.355*
	Sig. (2-tailed)	.000
	N	100
	Spearman's rho Correlation Coefficient	.364*
	Sig. (2-tailed) *(P-Value)*	.000
	N	100

*Correlation is significant at the 0.01 level (2-tailed)

The alpha value generated by IBM SPSS software suggests an r-value of 0.355 for the relationship between the two variables. This can be interpreted according to the Pearson Product Moment Correlation scale as a weak positive correlation. Simultaneously, the P-value obtained from the Spearman Rank Correlation Test is 0.00. Therefore, in the context of hypothesis testing, we will reject the null hypothesis, and we can assert that convenience does indeed have a relationship with the adoption of an e-wallet by Gen Y in Malaysia.

Past studies have shown that convenience positively influences e-wallet adoption, as the process is characterized by the "Triple A" principle, which stands for "anywhere, anytime, and anything." This makes it easier for users and organizations associated with e-wallet services (Revathy & Balaji, 2020; Subaramaniam et al., 2020).

4.4.3 Hypothesis 3

In this hypothesis, we will test the relationship between the independent variable, "transaction process relationship," and the adoption of an e-wallet by Generation Y in Malaysia. This will help us answer the question, "Does the transaction process play a role in the adoption of an e-wallet by Generation Y in Malaysia?" Based on the data collected from the questionnaire, 34% of the respondents strongly agreed, and 61% agreed that an e-wallet application needs to be quick and responsive, which can lead to adoption and frequent usage. The transaction process does indeed play an important role in the adoption of an e-wallet by Generation Y in Malaysia. The better, quicker, and easier the transaction process, the more likely customers are to adopt an e-wallet. To test this, a hypothesis testing method was carried out to accept or reject the null hypothesis based on the results generated from IBM SPSS.

Null Hypothesis (H0): There is no relationship between the transaction process and the adoption of an e-wallet by Generation Y in Malaysia.

Alternative Hypothesis (H1): There is a relationship between the transaction process and the adoption of an e-wallet by Generation Y in Malaysia.

Table 5 presents the Pearson Product Correlation Test for the independent variable, "product feature," and its influence on the adoption of an e-wallet, based on the correlation coefficient (r-value).

Table 5: Hypothesis Pearson Product Correlation Test

		Adoption of an e-wallet by Gen Y in Malaysia.
Transaction process	Pearson Correlation	.211*
	Sig. (2-tailed)	.036
	N	100
	Spearman's rho Correlation Coefficient	.215*
	Sig. (2-tailed) *(P-Value)*	.032
	N	100

**Correlation is significant at the 0.05 level (2-tailed)

Based on the data presented in the table above, it demonstrates the alpha value generated to assess the relationship between the variables. The alpha value, calculated as r = 0.211, can be interpreted as indicating a weak positive correlation between the two variables according to the Pearson Product Moment scale. On the other hand, the decision to accept or reject the null hypothesis can be determined by evaluating the p-value. The p-value, which is 0.03, is less than <0.10. Therefore, based on this analysis, we will reject the null hypothesis, as the p-value is lower than the margin of error. In conclusion, we can assert that the transaction process does indeed have a significant relationship with the adoption of an e-wallet by Gen Y in Malaysia.

The transaction process is recognized as a crucial factor that can either enhance or hinder a service system. The adoption rate of e-wallets is likely to increase significantly when the

application functions properly and swiftly (Sardar, 2016; Tee et al., 2014). Previous studies have also confirmed the influence of the transaction process on the adoption of e-wallets.

4.4.4 Hypothesis 4

In this hypothesis, we will test the relationship between the independent variable "security" and the dependent variable "adoption of an e-wallet." This will help us answer the question of whether or not "security plays a role in the adoption of an e-wallet."

According to the data collected from the questionnaire, 61% of the respondents strongly agreed, and 37% agreed that for an e-wallet to be successful, security is an important factor, and it needs to be up to date. Furthermore, the adoption of an e-wallet is more likely if the user's information is not disclosed to other users or organizations. About 21% of the respondents strongly agreed, and 64% agreed with this statement. Security does play an essential role in influencing the adoption of an e-wallet. To test this, a hypothesis testing method was employed to accept or reject the null hypothesis based on the results generated from IBM SPSS.

Null Hypothesis (H0): There is no relationship between security and the adoption of an e-wallet by Gen Y in Malaysia.

Alternative Hypothesis (H1): There is a relationship between security and the adoption of an e-wallet by Gen Y in Malaysia.

Table 6 displays the Pearson Product Correlation Test for the independent variable "social influence" and the dependent variable "influence on the adoption of an e-wallet" based on the "r" value.

Table 6: Hypothesis Pearson Product Correlation Test

		Adoption of an e-wallet by Gen Y in Malaysia.
Security	Pearson Correlation	.385
	Sig. (2-tailed)	.000
	N	100
	Spearman's rho Correlation Coefficient	.392
	Sig. (2-tailed) *(P-Value)*	.000
	N	100

*Correlation is significant at the 0.01 level (2-tailed)

Based on the data presented in the table above, it illustrates the alpha value generated for the relationship between the variables. The alpha value, which is calculated as r=0.385, can be interpreted as a weak positive correlation between the two variables according to the Pearson Product Moment scale. On the other hand, the decision to accept or reject the null hypothesis can be inferred by examining the P-value. The P-value, which is 0.00, is less than <0.10.

Therefore, based on this test, we will reject the null hypothesis, as the P-value is lower than the margin of error. In conclusion, we can assert that security does indeed have a significant influence on the adoption of an e-wallet.

The security of transactions and the privacy of the user are crucial factors that drive the adoption of an e-wallet. Previous studies have indicated a correlation between security and the adoption of an e-wallet (Sarika & Vasantha, 2018; Tee et al., 2023).

4.4.5 Summary of Findings and Regression Analysis

The relationship between each of the variables is determined using the correlation method. Through this testing, we either accept or reject the hypothesis and analyze the correlated variables. According to the results, it is evident that perceived price has the strongest correlation with the dependent variable. Overall, all the variables exhibit weak positive correlations and do not display any significant correlation. To summarize the relationships between the four variables, we can conduct a linear regression analysis, which will enable us to identify these relationships through the use of the r and r-square values.

Table 7: Model Summary (Regression Analysis)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.481[a]	.231	.199	.510

a. Predictors: (Constant), Perceived price, Convenience, Transaction process and Security
b. Dependent Variable: Adoption of an e-wallet

From Table 7, it was observed that the R value for the relationship is 0.481, equivalent to 48.1%. This value allows us to infer the extent of correlation between the variables. Accordingly, with reference to this value, it suggests a moderate positive relationship among all the variables.

Additionally, we can utilize the R Square value from the table, also known as the coefficient of determination. It is primarily computed by squaring the R-value. The R Square value serves to determine the extent of variance in the dependent variable attributable to the independent variable. A lower R Square value implies that the independent variable does not significantly account for the variation in the dependent variable. In this particular case, the R Square value stands at 0.231, equivalent to 23.1%, which is relatively low. This essentially means that only 23.1% of the variations in the adoption of an e-wallet can be elucidated by the independent variables: Perceived price, Convenience, Transaction process, and Security.

Table 8: ANOVA

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7.418	4	1.855	7.135	.000[b]
	Residual	24.692	95	.260		
	Total	32.110	99			
a. Dependent Variable: x6- Adoption						
b. Predictors: (Constant), x10- Security, x9- Transaction process, x8- Convenience, x7- Perceived price						

From Table 8, it can be determined if the overall regression model is a good fit or not for the data. The value for F (4, 95) = 7.135, and the significant value is 0.00. which means the model is adequate as it is below 0.05, Hence, H0: The model is not adequate and H1: The model is adequate.

Table 9: Coefficients

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.831	.527		3.474	.001
	x7- Perceived price	.322	.135	.294	2.377	.019
	x8- Convenience	.112	.097	.129	1.152	.252
	x9- Transaction process	-.139	.134	-.119	-1.039	.301
	x10- Security	.260	.123	.236	2.120	.037
a. Dependent Variable: x6- Adoption						

From Table 9, the regression coefficient formula can be stated:

$$y = b0 + b1x7 + b2x8 + b3x9 + b4x10$$

$$y = 1.831 – 0.322(x7) – 0.112(x8) + 0.139(x9) + 0.260(x10)$$

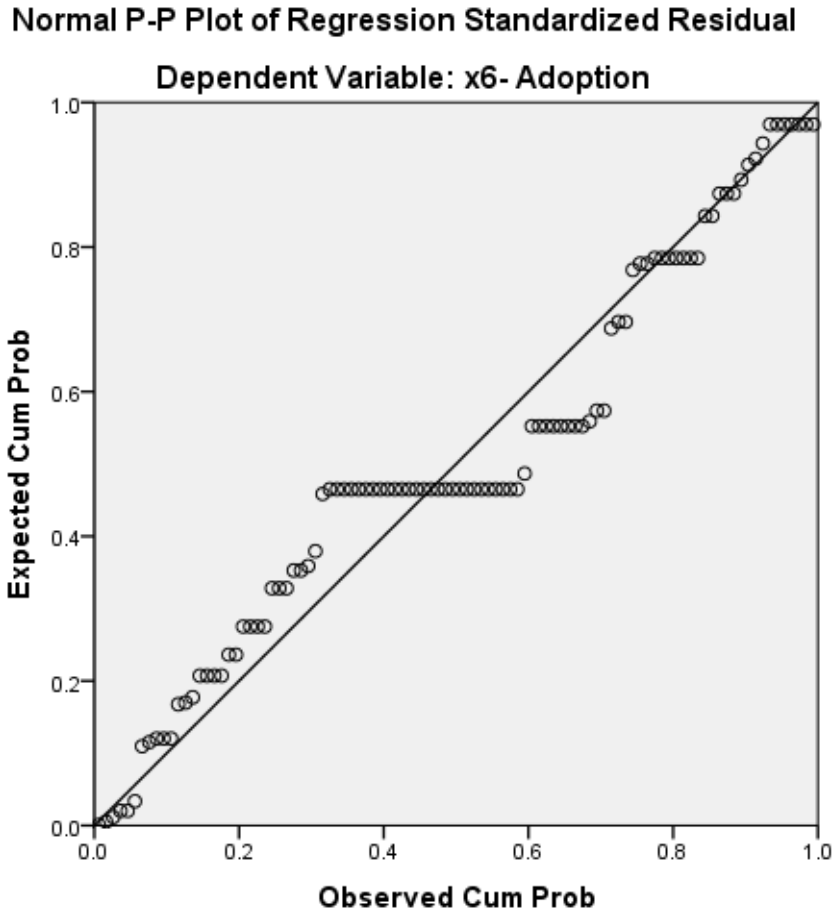
Table 9 also identifies the variable with the strongest influence when elucidating the significance with the dependent variable, which is the adoption of an e-wallet. This can be determined by examining the values under the "Standard Coefficient" column, specifically the Beta coefficient. The strongest variable is "perceived price" with a coefficient of 0.294, and the variable with the lowest Beta value is "transaction process" at -0.119. This indicates that "transaction process" is the least significant variable in terms of its impact on the adoption of an e-wallet.

From Table 9, the significance value can help determine whether the variables are statistically contributing uniquely to the equation that depends on them, and it can also reveal which independent variables are related to the dependent variable. If the significance value is greater than or equal to 0.05, the null hypothesis is accepted, and the alternative hypothesis is rejected.

Conversely, if the significance value is less than 0.05, the null hypothesis is rejected, and the alternative hypothesis is accepted.

Based on these values, it can be inferred that "convenience" and "transaction process" have no significant correlation with the adoption of an e-wallet among Gen Y individuals in Malaysia. On the other hand, "perceived price" and "security" are significant factors influencing Gen Y, as they are attracted by offers, discounts, and up-to-date security features, which encourage them to adopt an e-wallet.

Figure 10: Normal P-P Plot



From Figure 10, there is a linear regression line for the dependent variable in relation to the independent variables. The points shown on the graph are found close to the straight line which means they are linear and normally distributed overall. Secondly, these points are positive which can help us conclude that all the independent variables have a positive linear relationship with the dependent variable.

5.1 Limitations

he research findings regarding the factors influencing the adoption of an e-wallet were obtained through surveys. A total of 100 respondents were included in the study, focusing on perceived pricing, convenience, the transaction process, and security factors affecting e-wallet adoption among Gen Y individuals in Malaysia.

Nonetheless, due to time constraints, the researchers were unable to gather data from Gen Y individuals residing in various states across the country. Most of the questionnaires were collected through online methods, with only a few distributed physically among the target audience, which consisted of Gen Y individuals. The online approach required less direct interaction with respondents during the questionnaire collection process. However, this limited contact made it challenging to assess the reliability of respondents' answers.

Moreover, the data collected may not fully represent the entire country's population, as the population is dispersed, and internet infrastructure is not uniformly established. Additionally, some respondents may not have fully comprehended the survey questions, potentially leading to imprecise responses and an inaccurate reflection of consumer perspectives.

5.2 Recommendation

The research indicates that all four factors significantly influence the adoption decisions of young consumers. Perceived price is one such factor with a significant impact on Gen Y when it comes to adopting an e-wallet. As an e-wallet application or business, it is essential to conduct research and put more effort into improving both the inner system, which is application-based, and the exterior operations, which involve staff and collaboration with other organizations. The e-wallet application, which comprises software, needs to enhance its operating system speed, increase memory capacity, improve performance, and support various applications and devices. The application's design should be simple, user-friendly, and smart. Regular updates for the application and the employees are necessary to maintain the brand's competitiveness and attract more users or customers.

The top two leading e-wallet applications in the industry are PayPal and GrabPay. They constantly innovate and expand their services, making them accessible not only to high-income individuals but also to middle- and low-income consumers. New or existing e-wallet applications should invest in marketing tools and develop marketing strategies to establish and nurture the brand's relationship with consumers. Another way to build customer relationship management is by offering after-sales services, providing discounts and coupons, which can foster customer loyalty to the brand.

Security, on the other hand, is another crucial factor significant for Gen Y's e-wallet adoption. The results demonstrate that e-wallet businesses should prioritize security measures. Consumers are more likely to trust a reputable e-wallet organization known for its robust security measures, including regular security system updates and rigorous protection of user information. Convenience and the ease of the transaction process are equally important. Users should find it straightforward to operate the e-wallet, and some may require guidance on how it simplifies real-life situations. Additionally, a seamless transaction process can set an e-wallet organization apart, as positive reviews, swift transactions, and resolving customer complaints or issues can significantly boost awareness about the e-wallet application.

5.3 Future Research

From the study above, there are insights into the selection of various demographic segments and independent variables. Utilizing a qualitative method, such as conducting interviews with respondents, can significantly enhance the quality of responses. Furthermore, this approach can provide a deeper understanding of variable factors and the personal opinions of the respondents. It allows for the acquisition of knowledge beyond the confines of statistical data.

Additionally, future researchers conducting similar studies may not necessarily opt for the same set of dependent and independent factors.

5.4 Conclusion

Consumer adoption can be influenced by various factors, such as the services and marketing strategies that are employed. The advancement of technology and access to information stands out as the primary catalyst that has transformed human lifestyles. It has made services, product information, and product comparisons significantly more accessible through online platforms. With the rapid evolution of technology and the service industry, people continuously strive to keep pace with these changes, seeking the convenience of online or app-based transactions rather than visiting physical ATMs or banks. These factors contribute to a growing user base and sustained demand for such services as customers endeavour to stay up to date with emerging trends. Consequently, e-wallet organizations must conduct market research to gain insights into the needs and expectations of their customers. Armed with this knowledge, organizations can design applications and deliver services that align with the desires and expectations of their consumers.

6.0 References

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

Anil, S., Ting, L.T., Moe, L.H., & Jonathan, G.P.G. (2003), Overcoming barriers to the successful adoption of mobile commerce in Singapore. *International Journal of Mobile Communications,1*(1/2), 194-231.

Batra, R., & Kalra, N. (2016). Are digital wallets the new currency? *Apeejay Journal of Management and Technology, 11*(1), 29-30.

Bigdata Research (2018). *China third party mobile payment market development report.* http://www.bigdata-research.cn/content/201903/930.html.

Chen, W.C, Chen, C.W., & Chen, W.K. (2019). Drivers of mobile payment acceptance in China: An empirical investigation. *Information, 10*(12), 384.

Chia, K.M., Rohizan, A., Tee, P.K**.**, and Tajuddin, A.R. (2019). Evaluation of service quality dimensions toward customers' satisfaction of ride-hailing services in Kuala Lumpur Malaysia. *International Journal of Recent Technology & Engineering, ISSN: 2278-3075, 7*(5S), 102-109.

Dembla, P., Palvia, P. & Krishnan, B. (2007). Understanding the adoption of web-enabled transaction processing by small businesses. *Journal of Electronic Commerce Research, 5*(1), 1-17

Goh, G. (2013). 2013 is the year of IM: Ericsson ConsumerLab. *Digital News Asia.* https://www.digitalnewsasia.com/mobile-telco/2013-is-the-year-of-im-ericsson-consumerlab

Kabir, M. A., Saidin, S. Z., & Ahmi, A. (2017). Analysis of factors that influence electronic payment adoption. *Journal of Engineering and Applied Science, 12*(3), 34-45.

Kijek, A., & Kijek, T. (2010). Modelling of Innovation Diffusion. *Operations Research and Decisions 20*(3), 53-68.

Kim, C., Mirusmonov, M., & Lee, I. (2010). An empirical examination of factors influencing the intention to use mobile payment. *Computer Human Behaviour, 26*, 310–322

Kotler, P., & Keller, K. L. (2016). *Marketing Management (14th edition)*. Shanghai: People's Publishing House

Lai, P. C. (2017). The literature review of technology adoption models and theories for the novelty technology. *Journal of Information Systems and Technology Management, 14*(1), 21-38

Lee, B.J., Tee, P.K., & Dada, M. (2022). Influence of price awareness, brand image and self-concept on purchasing behaviour towards the fashion apparel industry among Generation Y consumers in Malaysia. *Electronic Journal of Business and Management, 7*(1), 17-36.

Revathy, C., & Balaji, P. (2020). Determinants of behavioural intention on e-wallet usage: An empirical examination in amid of Covid-19 lockdown period. *International Journal of Management, 11*(6), 92-104.

Sarika, P., & Vasantha, S. (2018). Review on influence of trust on mobile wallet adoption and its effect on users' satisfaction. *International Journal of Management, 8*(12), 1731-1744.

Sardar, R. (2016). Preference towards mobile wallets among urban population of Jalgaon city. *Journal of Management, 3*(2), 1-11.

Subaramaniam, K., Kolandaisamy, R., Jalil, A. Bin, & Kolandaisamy, I. (2020). The impact of E-Wallets for current generation. *Journal of Advanced Research in Dynamical and Control Systems,12*(1), 751-759

Statista (2022). *Number of smartphone users in Malaysia from 2010 to 2020 and a forecast up to 2025*. https://www.statista.com/statistics/494587/smartphone-users-in-malaysia/

Taheam, K., Sharma, R., & Goswami, S. (2016). Drivers of digital wallet usage: Implications for leveraging digital marketing. *International Journal of Economic Research, 13*(1), 175-186

Tee, P.K., Gharleghi, B. and Chan, Y.F. (2014). E-Ticketing in airline industries among Malaysian: the determinants. *International Journal of Business & Social Science.* 5(9), 168-174.

Tee, P.K., Lim, K.Y., Ng, C.P., & Wong, L.C. (2022). Trust in green advertising: Mediating role of environmental involvement. *International Journal of Academic Research in Business and Social Sciences, 12*(1), 1771–1786

Tee, P.K., Vashu, D., Wong, L.C., & Ng, C.P. (2023). Customer Engagement in Instagram: The Mediating Role of Perceived Advertising Value. In: Al-Sharafi, M.A., Al-Emran, M., Al-

Kabi, M.N., Shaalan, K. (eds) Proceedings of the 2nd International Conference on Emerging Technologies and Intelligent Systems. ICETIS 2022. *Lecture Notes in Networks and Systems, 584.* Springer, Cham. https://doi.org/10.1007/978-3-031-25274-7_25

The Star, (March 24, 2019). The eWallet way. *Thestar.com.* https://www.thestar.com.my/news/nation/2019/03/24/the-ewallet-way/

The Star. (September 22, 2021). Malaysia has 28 million social media users as of January 2021, says Communication Ministry Sec-Gen**.** *Thestar.com.* https://www.thestar.com.my/news/nation/2021/09/22/malaysia-has-28-million-social-media-users-as-of-january-2021-says-comms-ministry-sec-gen

Venkatesh, V., Brown, S. A., & Hoehle, H. (2012). Understanding technology adoption in the household context: A comparison of seven theoretical models. *Proceedings of the 20th European Conference on Information Systems (ECIS 2012)*, 35.

Wong, L. C., Tee, P. K., Yap, C. K., & Cham, T. H. (2023a). Examining Intentions to Use Mobile Check-in for Airlines Services: A View from East Malaysia Consumers. In Al-Emran, M., Al-Sharafi, M.A., & Shaalan, K. (eds) International Conference on Information Systems & Intelligent Applications, ICISIA 2022. *Lecture Note in Network and Systems, 550* (pp. 151-162). Springer, Cham

Wong, L. C., Tee, P. K., Yap, C. K., & Cham, T. H. (2023b). Examining Intentions to Use Mobile Check-in for Airlines Services: A View from East Malaysia Consumers. In Al-Emran, M., Al-Sharafi, M.A., & Shaalan, K. (eds) International Conference on Information Systems & Intelligent Applications, ICISIA 2022. *Lecture Note in Network and Systems, 550* (pp. 151-162). Springer, Cham.

Wolburg, J. M., & Pokrywczynski, J. (2001). A psychographic analysis of Generation Y college students. *Journal of Advertising Research, 41*(5), 33-52.

Yang, M.X., Lim, K.Y., Sam, T.H., Tan, O.K., Tee, P.K., Vasudevan, A., & Xu, R. (2023). The influencing factors and customer-centric brand equity in China retail banking. *Res Militaris, 13*(2), 1459-1469.

For instructions on how to order reprints of this article, please visit our website: https://ejbm.apu.edu.my/ ©Asia Pacific University of Technology and
Innovation