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Factors Influencing Baby Boomers and Gen X 's Intention to Use Cashless Payment in Batu Pahat, Johor

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Abstract

Privacy concerns and technological risks amplify challenges in adopting cashless transactions. Growing distrust, fueled by worries about data security and identity theft, hinders consumer willingness to embrace digital payments. This is particularly evident among the elderly, like baby boomers and Gen X, who face usability issues and prefer traditional payment methods due to limited digital currency knowledge and discomfort with technology. Overcoming these barriers is crucial for widespread cashless payment adoption. This study is aimed to identify the intention level of baby boomers and Gen X to use cashless payment in Batu Pahat. Besides, to identify the dominant factors influencing baby boomers and Gen X's intention to use cashless payment in Batu Pahat. This study also to determine the relationship between the factors and baby boomers and Gen X's intention to use cashless payment in Batu Pahat. The study utilizes the Technology Acceptance Model (TAM) framework, which considers perceived usefulness, perceived ease of use, perceived risk, and trust as the key variables. Data collection for this study was conducted through an online questionnaire administered to respondents. A total of 384 questionnaires were distributed to participants, and 230 complete and valid sets of responses were received. The findings indicate a positive correlation between all variables and the intention to use cashless payment. This research is crucial for understanding and promoting cashless payments in Malaysia, especially among the elderly. It offers valuable insights for companies, particularly payment providers, to tailor services, increase awareness, and gain a competitive edge in the industry

1. Introduction

The advancement of science and technology has been consistently enhanced in recent years due to the advancement of the times. Effectiveness and efficiency in economic models have been considerably affected by the speedy worldwide implementation of data and communication advances (Bukht & Heeks, 2018). Digital advancement, online services, electronic payments, e-commerce, crowdfunding, etc. are all aspects of the phenomena known as the "digital economy." The digital economy often includes major elements like e-commerce, online banking, electronic payments, online marketing, and online gaming. With the introduction of cashless transactions in the 1950s, several electronic payment technologies have been developed. The most significant advancements in recent years have included SMS payments, plastic cards (debit, credit, and ATM

cards), electronic transfers (e-transfers), internet banking, digital wallets (Google Wallet), and digital currencies (Bitcoin). Smartphones, online services, and smart applications are the main components of a cashless economy.

Nowadays, the variety of payment systems for cashless transactions is quickly growing in our everyday lives. Utilizing electronic or non-electronic payment methods to exchange goods or services eliminates the necessity for cash in cashless payment systems. The era of technology transformation is paralleled by shifts in the global economic environment from cash-based to electronic-based transactions. The cashless transaction payment technique has always been utilized by consumers due of its ease, quickness and reliability. The implementation of electronic payments is crucial to improve transparency and minimize the issue of cash-related crime. Transparency and other basic elements can promote economic progress (Ng & Ismail., 2021).

Cashless societies and technical advancement are becoming more and more popular worldwide in the new global economy. These days, cashless transactions are one of the most important parts of the world society and are seen to be a key factor in economic growth (Fabris, 2019). A community stop using cash interchange system known as "cashless payment" authorizes both digital transfer payments and non-digital payments for products and services (Tee & Ong, 2016). Consumers prefer technology that provides fast, straightforward, and valuable services.

In support of Industry 4.0, most firms are switching to cashless transactions, which has hinted at the development of a cashless society. Cashless transactions improve capacity, integrity, and efficiency (Kadar *et al.*, 2019). Market globalization will be enabled by the cashless tendency. The electronic marketplace involved a cashless form of exchange. Online shoppers pay for the goods they bought utilizing a cashless transaction payment technique. Because cashless transactions are more convenient, consumers are more inclined to adopt them as a form of payment. Consumers like using a cashless payment system over using actual cash to make purchases. As a result, people now place more faith in cashless transactions. The Bank Negara Malaysia's goal is to speed up the country's move to cashless transactions. The improvement of the country's payment system efficiency is the purpose here. Debit cards are encouraged by the government and Malaysia's central bank, Bank Negara Malaysia (BNM), since they help people manage personal spending more wisely and serve as a tool to control credit card debt.

Ellia (2019) reported that for Malaysia, e-money is the most often utilized form of payment, with a mean of 58.4 (56.2%) transactions per person, followed by online banking with a mean of 18.7 (18%) transactions per person. Most large-value transactions are completed using online banking services. It can be true that many Malaysian customers use online banking to pay for their home, vehicles, and insurance policies. In addition, Mering (2019) reported that customers in Malaysia utilize online banking and cashless transactions using debit cards in the amount of 63% and 57%, respectively, mostly to pay phone and internet bills.

Consequently, the purpose of this study is to identify the intention level of baby boomers and Gen X to use cashless payment in Batu Pahat. This study also identifies the dominant factors influencing baby boomers and Gen X's intention to use cashless payment in Batu Pahat. Besides, to determine the relationship between the factors and baby boomers and Gen X's intention to use cashless payment in Batu Pahat. The results of this study should aid in enhancing consumers' understanding of cashless payment among Malaysian customers by utilizing the TAM framework.

There are always privacy problems with cashless transactions. The level of risk has also increased because of increased technological development because technology is increasingly being applied negatively. According to Swiecka & Grima (2019), the research shows that 48% of the respondents support the security factor as the main factor influencing the use of payment tools. Most mobile payment systems gather personal data from users in order to target deals and other incentives at them depending on the data given. Hackers might utilize this data improperly to steal private data from customers. Moreover, certain malware programs have the potential to create additional issues (Yuvaraj & Eveline, 2018). Though without direct financial participation, the most destructive conduct in internet platforms is the theft of private information. Using flaws in the payment platform, such as users' weak passwords, user profile theft may be committed. As a result, cashless transaction platforms may experience privacy difficulties (Edwards *et al.*, 2016).

Nowadays, cybercrime is widespread in cashless transactions. Cybercrime related to online transactions. It involves blackmail, stealing of confidential information, carding, data theft, and bank deception (Muzaffar, 2019). While adopting online transactions, access to people's card details is required for the transaction to be successful. The problem of confidential information being taken may result from this. Those that utilize electronic payment systems are most at risk for stealing, deception, and illegal access. In the case of a data theft, confidential data may be made accessible to others. The danger of disclosing information rises as a result.

Cashless transactions are related with a number of cybersecurity issues. First, dishonest business practices. Cashless transactions are subject to fraud, including identity theft, unlawful access to user account information, and hacking of payment gateways, which can result in unauthorized transactions. Malware and phishing assaults come second. Phishing attacks utilize bogus emails or websites to deceive people into disclosing personal information, while malware may be used to steal sensitive data like login passwords. And last, payment card skimming. Cybercriminals that employ a device to steal credit or debit card information are said to be engaging

in payment card skimming. According to Muzaffar (2019), from January to October 2019, Malaysia received 8,313 reports of cybercrime cases, with a loss of about RM300 million. The majority of scams fall into one of four categories: wire scams, financial scams, 419 scams and e-commerce scams. According to General Incident Classification Statistic 2023 from Cyber Security Malaysia (MYCERT, 2023), from January to March, 797 occurrences were connected to cyber fraud, followed by intrusion (157), malware (140), and content- related incidents (102), intrusion attempt (56), vulnerabilities report (28), spam (24) and denial of service (3).

Trust issues surrounding cashless payments are a prevalent concern among consumers and can significantly influence their willingness to embrace and utilize such payment methods. One primary worry revolves around the confidentiality and security of financial and personal data, with concerns ranging from potential data breaches to identity theft and unauthorized access. Recent research indicates that consumers are increasingly apprehensive about the escalating risk of payment fraud and security breaches (Piece, 2018). A growing concern is the perceived lack of robust monitoring of data and cybersecurity issues in cashless payment systems, particularly in the absence of central bank oversight (NCR, 2021).

In terms of usability and simplicity of usage, many people face issues using cashless payments, especially the elderly population such as baby boomers and Gen X. This is because they still rely on traditional payment methods to purchase goods or services. They may be less comfortable with technology and less likely to switch from physical currencies (Morgan, 2023). Besides, their knowledge of using digital currencies is limited, so they avoid online payment methods. Many of them are also concerned about its complexity and continue to use traditional payment methods. Furthermore, a large proportion of people, most of them poor and marginalized, do not have bank accounts or IT knowledge (Fabris, 2019). So, this study is intended to choose baby boomers and Gen X about the usage of cashless payment.

There are three objectives of this research:

i. To identify the intention level of baby boomers and Gen X to use cashless payment in Batu Pahat.
ii. To identify the dominant factors influencing baby boomers and Gen X's intention to use cashless payment in Batu Pahat.
iii. To determine the relationship between the factors and baby boomers and Gen X's intention to use cashless payment in Batu Pahat.

This research is crucial to understanding attitudes and behavior towards the use of cashless payments and has important implications for increasing consumer use of cashless payments. It can help the country move from cash to cashless payments and increase awareness of cashless payments among Malaysian consumers especially in elderly population. Companies, especially payment providers, can benefit from this research by understanding the cashless payment usage of consumers and providing more suitable cashless payment services, especially for elderly population. It also helps businesses gain a competitive edge inside the industry.

2. Literature Review

2.1 Cashless Payment Method

A cashless payment is one that is processed using electronic means rather than with physical currency. Cashless transactions can be made using a point of sale (POS) in stores as well as online. These payment methods are crucial to e-commerce because they give consumers a variety of payment choices. Numerous payment mechanisms, including credit and debit cards, internet payment platforms, and cell phones, can be used to make cashless payments. The most popular cashless payment options operate as follows:

2.1.1 Credit Card or Debit Card

According to Sultana & Hasan (2016), the traditional cash payment system is gradually being replaced by these debit and credit cards. A debit card is a type of bank card used to make purchases using money from the cardholder's savings account (Sultana & Hasan, 2016). Consumers need to deposit funds into their accounts before the transaction can be completed. A credit card enables the owner to use the credit line supplied by the card's issuer to make purchases; the remaining balance must be paid in full at a later time. In addition to this, cardholders are allowed to pay their bills before the due date to avoid unnecessary interest charges.

2.1.2 Online Banking and Mobile Banking

Online banking is a financial intermediary that conducts transactions over the Internet (Ng & Ismail, 2021). Retail banking offers online banking so that users may complete transactions from their office. Similar to internet banking, mobile banking offers a quick and easy option to carry out routine financial operations. Mobile banking can be done via sending a text message, using an app that has been downloaded to the phone, or by using the phone's web browser to visit the bank's website.

2.1.3 Mobile Wallet

A mobile wallet is an application that digitally carries cash (Ng & Ismail, 2021). It is a software program with its own features, design and components. Installing the software from the internet store allows users to use it as payment for goods and services they have ordered. Accessing loyalty incentives is made simpler with mobile wallets (Singh *et al.*, 2017). Benefits like simplicity are what make consumers choose to do transactions using mobile wallets.

2.2 Intention to Use Cashless Payments

A mobile wallet is an application that digitally carries cash (Ng & Ismail, 2021). It is a software program with its own features, design and components. Installing the software from the internet store allows users to use it as payment for goods and services they have ordered. Accessing loyalty incentives is made simpler with mobile wallets (Singh *et al.*, 2017). Benefits like simplicity are what make consumers choose to do transactions using mobile wallets.

2.3 Technology Acceptance Model (TAM)

The Technology Adoption Model (TAM), one of the most common theories of computer, application, and technology acceptance, was developed by Davis (1989). This idea explains how consumers' views regarding technology affect the ways in which they intend to utilize it. There is a strong likelihood that user perceptions will affect the variability of these attitude and behavioral qualities. Users' perceptions are highly likely to influence the variability of these attitude and behavioral traits (Intarot, 2018). Furthermore, the TAM was initially designed for application within an organizational context, a markedly distinct environment from that of end-users (Chatterjee & Bolar, 2019). TAM theory is a powerful model that is suitable for all kinds of technology research because it shows empirical and abundant evidence (Padmawidjaja *et al.*, 2020).

2.3.1 Perceived Usefulness

Perceived usefulness (PU) is the subjective likelihood that utilizing technologies would improve productivity (Davis, 1989). From the standpoint of the Technology Acceptance Model (TAM), it is defined as the level at which an individual thinks utilizing a certain application would enhance their efficiency (Abdullah *et al.*, 2020). When users find cashless systems available for their transaction needs, they will use cashless payment methods. A person's perception of a system's usefulness determines whether or not they believe it will help them do efficiently at work (Corkindale *et al.*, 2018). Furthermore, it has been demonstrated that perceived usefulness has a favorable influence on the intention to employ electronic payments in uncertain situations (Yang *et al.*, 2021). Perceived usefulness has been found to be a reliable indicator of customers' behavioral intentions in prior studies (Intarot, 2018).

H1: Perceived usefulness has significant relationship with baby boomers and Gen X's intention to use cashless payment.

2.3.2 Perceived Ease of Use

Perceived Ease of Use (PEOU) is described as how easy people think it is to use a particular system (Davis, 1989). When users find cashless systems available for their transaction needs, they will use cashless payment methods. Perceived ease of use describes how easy it is to use technologies to access websites and conduct business online (Grover *et al.*, 2019). Customers believe that using e- wallets is simple, saving them money and time (Abu Bakar *et al.*, 2022). Online consumers benefit more from technology utilization; in other words, customers will prefer using technology that is simpler to put into practice while conducting transactions (Yang *et al.*, 2021).

H2: Perceived ease of use has significant relationship with baby boomers and Gen X's intention to use cashless payment.

2.3.3 Perceived Risk

Perceived risk is the degree to which shareholders, dealers, or supervisors believe that mobile payment transactions may result in uncertain negative returns (Wiradinata, 2018). Perceived risk is described as the degree to which individuals engaging in cashless transactions believe they are exposed to various Risks relating to money, society, psychology, health, or time. Previous research has demonstrated that perceived risk plays a significant role in consumer technology adoption (Mohd Sapian & Ismail, 2021). Risk-taking involves not just being ready to take chances but also having the organizational capacity to reduce possible dangers (Teofilus *et*

al., 2020). Users are concerned about the privacy and security of mobile payments offered by parties such as banks, telcos, and retailers (Aydin, 2016). Consumers' perceived risk increases with unpredictability, and the resulting unintended consequences improve them.

H3: Perceived risk has significant relationship with baby boomers and Gen X's intention to use cashless payment.

2.3.4 Trust

According to one definition of trust, it is the willingness of one party to be impacted by the actions of another, predicated on the belief that the other party would carry out specific tasks essential to the primary, independent of the other party's capacity to monitor or control (Mayer *et al.*, 1995). In most study on technology usage intentions, trust is viewed as a reinforcing factor when it comes to technology adoption, where it is often defined as either an intention or reliability. It is often incorporated into the Technology Acceptance Model (TAM) or its derivatives (Chatterjee & Bolar, 2019). Trust is important because gaining it reduces fear and worry among people. In developing a connection between two people, trust is crucial. Considering the possibilities to leverage consumers' prior knowledge to build confidence will increase consumers' willingness to purchase (Abu Bakar *et al.*, 2022). Therefore, increasing corporate profits depends on public perception of trust in mobile payment systems (Wong & Mo, 2019).

H4: Trust has significant relationship with baby boomers and Gen X's intention to use cashless payment.

2.4 Research Framework

Fig. 1 shows the research framework of this study which includes independent variables (TAM model i.e., perceived usefulness, perceived ease of use, perceived risk and trust) as the factors of dependent variable, intention to use cashless payments among baby boomers and Gen X.

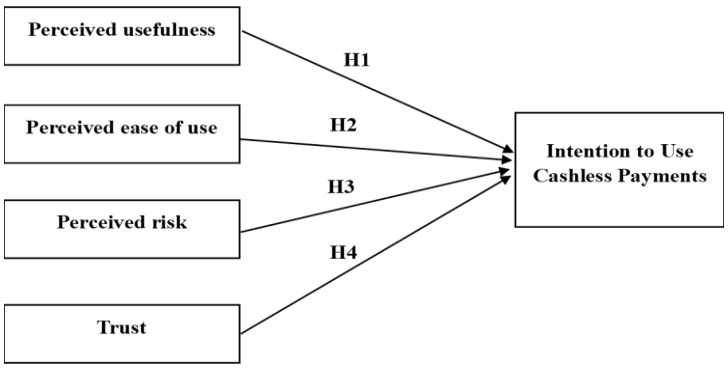

Fig. 1 *Research framework*

3. Methodology

3.1 Research Design

For this research, the data collection method chosen is quantitative, which involves utilizing surveys to gather information from the participants. Specifically, an online questionnaire will be distributed to the respondents to collect the required data. The quantitative approach primarily focuses on employing questionnaires, surveys, and computational techniques to manipulate existing statistical data. The researcher adopts this quantitative method to investigate the relationship between independent and dependent variables, aiming to address the research question. The survey will consist of close-ended questions, including multiple-choice questions.

3.2 Data Collection

This research will utilize both primary and secondary sources of data to conduct the study. Primary data is unique and closely related to the study topic and objectives as it is gathered from personal experience. However, information that has been acquired in the past or from outside sources is referred to as secondary data. The data for this research will be collected from baby boomers and Gen X in Batu Pahat who do not using cashless payment methods. The respondents will be questioned to identify the factors influencing their intention to use cashless payment. The survey was distributed to the respondents through popular social media platforms such as Facebook and WhatsApp.

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Fig. 2 *Research process*

3.3 Population and Sampling Techniques

The target population for this study is baby boomers and Gen X in Batu Pahat who do not using the cashless payment method. These respondents were selected due to their tendency to exhibit reluctance in embracing technology. The total population of residents in Batu Pahat is approximately 495,338 people. Non-random sampling techniques will be employed in this study. The purpose of non-random sampling is to quickly and cost-effectively determine the existence of a problem or issue. In this case, convenience sampling will be utilized to collect data. Convenience sampling is chosen because it allows for easy access to sample units, while also requiring minimal time and cost.

3.4 Responses Rate

Based on Krejcie & Morgan (1970), a margin of error of 5% and a confidence level of 95% were selected, resulting in a required research sample size of approximately 384 respondents. A total of 384 sets of questionnaires were distributed through social media platforms such as Facebook and WhatsApp. However, out of the distributed questionnaires, only 230 respondents provided responses. Hence, the rate of return for this analysis is calculated as 60%.

3.5 Construct Measurement

This study consists of three sections which include section A, Section B and Section C. Section A is the respondents' profiles including gender, year of birth, race, marital status, status of income and current employment position. Section B is an investigation of the factors influencing baby boomers and Gen X's intention to use cashless payment using the Technology Acceptance Model (TAM) method, and Section C is identified of the relationship between factors and baby boomers and Gen X's intention to use cashless payment. Participants are requested to express the extent to which they agree or disagree with each of the items provided.

3.6 Pilot Test

To evaluate the validity and reliability of the research instruments, a pre-test was conducted using the Cronbach's Alpha Reliability Test. The researcher distributed the questionnaire to a total of 30 adult consumers in the Batu Pahat area. The objective of conducting this pre-test was twofold. Table 1 presents the Cronbach's Alpha values for both the independent variables and the dependent variable. The independent variables assessed in the study include perceived usefulness, perceived ease of use, perceived risk, and trust. The reliability values of 0.951, 0.967, 0.925, and 0.955 correspond to each of the independent variables. Additionally, the intention to use cashless payment has a reliability value of 0.966 for the dependent variable.

Table 1 *Cronbach's Alpha for Pilot test from 30 respondents*

Variables	Cronbach's Alpha	Reliability
Perceived Usefulness	0.951	Excellent
Perceived Ease of Use	0.967	Excellent
Perceived Risk	0.925	Excellent
Trust	0.955	Excellent
Intention to Use Cashless Payment	0.966	Excellent

3.7 Data Analysis

For data analysis, the IBM Statistical Package for Social Sciences (SPSS) software was utilized. Data analysis involved categorizing the gathered data into themes and sub-themes to facilitate comparison. Measures like mean, percentage, and standard deviation were used to tabulate and analyze the responses in a descriptive analysis. Descriptive analysis was used in this study to characterize the demographic respondents of Batu Pahat. Besides, to assess whether the data obtained follows a normal or non-normal distribution, a normality test analysis was conducted. Additionally, inferential analysis techniques like Spearman's Correlation were employed to compare and test hypotheses. Inferential analysis, descriptive analysis, and scale measurement are the data analysis techniques used in this study.

4. Results and Discussion

4.1 Results

4.1.1 Background of Respondents

Based on the Table 2, among the 230 respondents in the total population, there were 110 respondents (47.8%) are males and 120 are respondents (52.2%) of females. The majority of respondents were born in the year range of 1973 to 1980, comprising 39.1% of the total.

Table 2 *Summary of respondent demographic*

	Frequency	Percent (%)
Gender		
Male	110	47.8
Female	120	52.2
Year of Birth		
1946-1955	32	13.9
1956-1964	45	19.6
1965-1972	63	27.4
1973-1980	90	39.1
Race		
Malay	71	30.9
Chinese	99	43.0
Indian	60	26.1
Marital Status		
Single	75	32.6
Married	117	50.9
Widowed	28	12.2
Divorced	10	4.3
Status of Income		
RM2000 and below	86	37.4
RM2001 to RM4000	92	40.0
RM4001 to RM6000	44	19.1
RM6001 and above	8	3.5
Current Employment Position		
Public sector or government staff	60	26.1
Private sector	64	27.8
Entrepreneur	26	11.3
Pensioner	52	22.6
Unemployed	28	12.2

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Conversely, those born between 1946 and 1955 constituted the smallest group, with only 13.9%. Furthermore, respondents born between 1965 and 1972 accounted for 27.4% of the total, while those in the 1956-1964 range made up 19.6%. Besides, the predominant segment of respondents was of Chinese descent, making up 43% of the respondents. Following closely were Malay respondents, comprising 30.9%, while Indian respondents constituted 26.1% of the total. For marital status, 50.9% of them were married, while 32.6% were single. Moreover, 12.2% of the surveyed population were reported as widowed, and 4.3% indicated that they were divorced. For the status of income, 40% of the respondents fall within the income range of RM2001 to RM4000. Furthermore, 37.4% of the questionnaire respondents reported an income of RM2000 and below. In contrast, the income bracket of RM4001 to RM6000 constituted 19.1% of the respondents. Notably, the segment with an income of RM6000 and above was represented by only 3.5% of the respondents. Lastly, the majority of respondents were employed in the private sector, which represents 27.8%. Additionally, 26.1% of respondents held positions in the public sector, while 22.6% were identified as pensioners. Furthermore, 12.2% of respondents reported being unemployed, and 11.3% of respondents were entrepreneurs.

4.1.2 Factors Influencing Baby Boomers and Gen X's Intention to Use Cashless Payment

Based on the Table 3, perceived usefulness has the highest average mean value, recording M = 3.36 with a standard deviation of SD = 0.857. Conversely, perceived risk exhibits the lowest average mean value (M = 3.09) with a standard deviation of SD = 0.725. The overall trend among respondents in this research is a positive inclination towards all factors influencing the intention to use cashless payments, indicating a moderate mean level of satisfaction (M = 3.23) with a standard deviation of SD = 0.790.

Table 3 *Overall mean and standard deviation score of influencing factors*

Item	Mean	Standard Deviation	Level
Perceived Usefulness	3.36	0.857	Moderate
Perceived Ease of Use	3.19	0.862	Moderate
Perceived Risk	3.09	0.725	Moderate
Trust	3.26	0.715	Moderate
Factor Influencing	3.23	0.790	Moderate

4.1.3 Reliability Test

According to Hajjar (2018), the reliability degree is identified by the correlation coefficient (r) between two sets of values. The scale reveals that the average correlation among all items, as indicated by the value of Cronbach's Alpha, ranges from 0 to 1. Higher Cronbach's Alpha values signify greater scale reliability. A Cronbach's Alpha value falling between 0.7 and 0.8 is considered indicative of good internal consistency, while a range of 0.8 to 0.9 is categorized as very good internal consistency. An Alpha value of 0.9 and above indicates excellent internal consistency.

Table 4 displays the Cronbach's Alpha coefficient values obtained through SPSS reliability analysis for each variable in the study. Perceived usefulness (PU) exhibits an excellent internal consistency with an alpha coefficient value of 0.945. Notably, perceived ease of use (PEOU) attains the highest alpha coefficient value among the variables, reaching 0.950, indicating excellent internal consistency. Perceived risk (PR) demonstrates a very good internal consistency with an alpha coefficient value of 0.895. Trust (T) also shows excellent internal consistency, achieving an alpha coefficient value of 0.943. Additionally, the dependent variable, with intention to use cashless payment attains an alpha coefficient value of 0.946, signifying excellent internal consistency.

Table 4 *Reliability test*

Variable	Cronbach's Alpha	N of Items	Reliability
Perceived Usefulness (PU)	0.945	4	Excellent
Perceived Ease of Use (PEOU)	0.950	4	Excellent
Perceived Risk (PR)	0.895	4	Very good
Trust (T)	0.943	4	Excellent
Intention To Use Cashless Payment (ITUCP)	0.946	5	Excellent
Total		21	

4.1.4 Normality Test

Table 5 displays the results of the normality test using the Kolmogorov-Smirnov and Shapiro- Wilk coefficients. As a non-parametric method, the Kolmogorov-Smirnov test evaluates whether the data is distributed approximately normally. The null hypothesis is accepted and it is assumed that the data are normally distributed if the p-value is greater than 0.05. In contrast, the null hypothesis is rejected and it is suggested that the data deviates from the normal distribution if the p-value is less than 0.05. According to the table's results, every variable has p-values less than 0.05, meaning that for every variable, the null hypothesis is rejected. Therefore, the data is considered not normal for all variables.

Table 5 *Normality test*

Variables	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Perceived Usefulness	.187	230	.000	.918	230	.000
Perceived Ease of Use	.190	230	.000	.913	230	.000
Perceived Risk	.152	230	.000	.952	230	.000
Trust	.171	230	.000	.924	230	.000
Intention To Use Cashless Payment	.143	230	.000	.959	230	.000

4.1.5 Spearman's Test

The relationship between independent variables (IVs) and the dependent variable (DV) is investigated using the Spearman Rho correlation. Spearman Rho correlation coefficients indicate whether an impact is positive or negative and range from +1 to -1. The strength of the relationship may be inferred from the absolute value's magnitude. Table 6 presents the results of the correlation test for each factor dimension influencing the intention to use cashless payment (ITUCP). The results indicate that all variables exhibit a positive and significant relationship with the intention to use cashless payment. Within the factors of the TAM framework, perceived ease of use (PEOU) emerges as the strongest among the independent variables.

Table 6 *The correlation of independent variables towards dependent variable*

			PU	PEOU	PR	T	ITUC P
Spearman's rho	PU	Correlation Coefficient		.878**	.562**	.483**	.811**
		Sig. (2-tailed)		.000	.000	.000	.000
	PEOU	Correlation Coefficient	.878**		.588**	.511**	.839**
		Sig. (2-tailed)	.000		.000	.000	.000
	PR	Correlation Coefficient	.562**	.588**		.863**	.716**
		Sig. (2-tailed)	.000	.000		.000	.000
	T	Correlation Coefficient	.483**	.511**	.863**		.691**
		Sig. (2-tailed)	.000	.000	.000		.000
	ITUCP	Correlation Coefficient	.811**	.839**	.716**	.691**	
		Sig. (2-tailed)	.000	.000	.000	.000	

4.1.6 Hypothesis Testing

Based on the Table 6, the correlation coefficient of perceived usefulness (PU) is 0.811. PU has a significant and substantial impact on the intention to use cashless payment among baby boomers and Gen X. Meanwhile, the p-value for this variable was found to be 0.000, which is less than 0.05. This indicates a significant relationship between the variables. As a result, the hypothesis H1 accepted and rejected the null hypothesis.

H1: Perceived usefulness has significant relationship with baby boomers and Gen X's intention to use cashless payment.

The correlation coefficient of perceived ease of use (PEOU) is 0.839. PEOU has a significant and substantial impact on the intention to use cashless payment among baby boomers and Gen X. Meanwhile, the p-value for

this variable was found to be 0.000, which is less than 0.05. This indicates a significant relationship between the variables. As a result, the hypothesis H2 accepted and rejected the null hypothesis.

H2: Perceived ease of use has significant relationship with baby boomers and Gen X's intention to use cashless payment.

The correlation coefficient of perceived risk (PR) is 0.716. PR has a significant and substantial impact on the intention to use cashless payment among baby boomers and Gen X. Meanwhile, the p- value for this variable was found to be 0.000, which is less than 0.05. This indicates a significant relationship between the variables. As a result, the hypothesis H3 accepted and rejected the null hypothesis.

H3: Perceived risk has significant relationship with baby boomers and Gen X's intention to use cashless payment.

The correlation coefficient of trust (T) is 0.691. T has a significant and substantial impact on the intention to use cashless payment among baby boomers and Gen X, Meanwhile, the p-value for this variable was found to be 0.000, which is less than 0.05. This indicates a significant relationship between the variables. As a result, the hypothesis H4 accepted and rejected the null hypothesis.

H4: Perceived trust has significant relationship with baby boomers and Gen X's intention to use cashless payment.

4.2 Discussion

4.2.1 First Objective: To Identify the Intention Level of Baby Boomers and Gen X to Use Cashless Payment in Batu Pahat

The overall intention of baby boomers and Gen X to use cashless payment is at a moderate level. The mean value is 3.54, with a standard deviation of 0.787. Intention refers to the degree of effort or the extent to which individuals are motivated to engage in cashless payment activities (Toh *et al.*, 2022). As technology becomes an integral part of daily life, respondents may be more willing to adopt cashless payment methods due to increased familiarity and comfort with digital platforms (Yang *et al.*, 2021). Notably, a significant portion of respondents expressed they will think about using cashless payment, with 107 respondents in agreement. Moreover, 106 respondents indicated they intend to use cashless payment when the opportunity arises, and 105 respondents stated they intend to use cashless payment in the future.

4.2.2 Second Objective: To Identify the Dominant Factors Influencing Baby Boomers and Gen X's Intention to Use Cashless Payment in Batu Pahat

The results show that among all the factors that affect the intention to use cashless payment, the perceived usefulness (PU) value is the highest (M=3.36; SD= 0.857). In this study, 121 respondents responded that they think using cashless payment is an effective way to make payment. In addition, 94 respondents responded that they think using cashless payment saves a lot of time in making payment. Based on the previous study by Padmawidjaja *et al.* (2020), which highlighted indicators of perceived usefulness. One of these indicators involves reducing turnaround time, referring to the potential shortening of the time required for transactions through the use of cashless payment. Additionally, another indicator is easy transaction, emphasizing cashless payment facilitates and streamlines the transaction process. In addition, customers hold the belief that employing a specific system enables them to achieve their professional or personal goals, concurrently enhancing the efficiency of their transactional activities (Yang *et al.*, 2021).

Nevertheless, perceived risk at the lowest value in this study (M = 3.09; SD = 0.725). Among the respondents, 81 individuals expressed disagreement with the notion that cashless transactions are safer than cash transactions. This aligns with findings from a previous study by Giovanis *et al.* (2019) which identified indicators of perceived risk. Among these indicators, privacy risk stands out, representing the potential loss of control over personal information such as background details, passwords, or user accounts. Additionally, financial risk is highlighted as another indicator, encompassing the potential loss of money due to the use of cashless payment methods (Giovanis *et al.*, 2019).

4.2.3 Third Objective: To Determine the Relationship Between the Factors and Baby Boomers and Gen X's Intention to Use Cashless Payment in Batu Pahat

PU towards the intention to use cashless payment shown that there is a positive significant relationship. The result show that the value of Spearman's rho correlation coefficient of PU is 0.811, signifying the strongest positive value in this study. The survey data results suggest that a majority of respondents perceive cashless

payment transactions as effective and convenient. They also perceive cashless payment can saves a lot of time in making payment. A previous study conducted by Junadi & Sfenrianto (2015), have emphasized that users are inclined towards electronic payment methods due to their validity anytime, anywhere, without restrictions. Corroborating this, a study by Ng & Ismail (2021) demonstrated a significant impact of PU on the intention to use cashless payment modes, with respondents expressing that making payments online would be simpler for them if they used the cashless transaction mode. In addition, based on the previous study, the perceived usefulness significantly influences users' intentions to utilize online payment services such as e-payment, e-banking, and e- wallets (Toh *et al.*, 2022).

PEOU towards intention to use cashless payment was shown that there is a positive significant relationship. The result show that the value of Spearman's rho correlation coefficient of PEOU is 0.839, which mean that it is positive strongest value in this study. In view of the survey's findings, most respondents think that using cashless payment is simple and easy. Users who seek simplicity will find a basic operating system more appealing. Based on the previous study by (Toh *et al.*, 2022), have emphasized that users are inclined to utilize a service if they perceive it as user-friendly and comprehensible. The findings indicate that PEOU is a significant factor in influencing the intention to use cashless payment methods (Toh *et al.*, 2022). Besides, a study by Ng & Ismail (2021) demonstrated a significant impact of PEOU on the intention to use cashless payment modes, with respondents expressing that engaging in cashless transactions conserves a significant amount of time and energy for them.

PR towards intention to use cashless payment was shown that there is a positive significant relationship. The result shows that the value of Spearman's rho correlation coefficient of PR is 0.716, which mean that it is positive strong value in this study. In view of the survey's findings, most respondents believe that it is quite challenging to steal private information through cashless payment methods. In the research conducted by Syahril and Rikumahu (2019), it was found that the willingness to embrace electronic money is significantly influenced by the perceived risk. The researchers assert that users perceive electronic money as a secure and reliable method that safeguards their personal information and accounts. However, contrary to this perspective, previous studies, such as the one conducted by Wiradinata (2018) have indicated that users tend to factor in risks and negative implications in cashless payment transactions. The study highlights that uncertainties in cashless payment transactions can impact their security, affecting traders, consumers, and users alike.

T towards intention to use cashless payment was shown that there is a positive significant relationship. The result shows that the value of Spearman's rho correlation coefficient of trust is 0.691, which mean that it is positive strong value in this study. In view of the survey's findings, most respondents were satisfied with the security system of cashless payment transaction. Prior research has indicated that trust plays a crucial role in influencing individuals' intention towards using cashless payment transactions (Abu Bakar *et al.*, 2022). Previous studies have asserted that consumers are more likely to adopt a payment application for purchasing goods once they have developed trust in the system or the service provider (Abu Bakar *et al.*, 2022). Supporting this perspective, a study conducted by Ng & Ismail (2021) revealed a significant correlation between trust and the intention to use cashless payment methods. The majority of survey respondents expressed confidence that, in the event of any issues, the service provider would offer assistance. Furthermore, respondents believed that cashless transaction modes prioritize the well-being of customers.

5. Conclusion

The study aims to identify the factors influencing baby boomers and Gen X's intention to use cashless payment in Batu Pahat. The results of this study can offer financial institutions and enterprises useful information about how to promote the use of cashless transactions among baby boomers and Gen X in Batu Pahat. Understanding the factors that influence their intentions can guide the creation of focused marketing and informational initiatives to highlight the advantages and convenience of cashless transactions.

Besides, policymakers can utilize the study's results to formulate and refine policies that support the integration of cashless payment systems. Addressing specific concerns or barriers identified in the study can contribute to the creation of a more favorable setting for the use of electronic payment systems within the specified demographic groups. In addition, businesses operating in Batu Pahat can adapt their strategies to better cater to the payment preferences of baby boomers and Gen X. By tailoring services and incentives that align with the identified factors influencing their intentions, businesses can enhance customer satisfaction and loyalty.

In summary, this study sheds light on the factors influencing baby boomers and Gen X's intention to use cashless payment in Batu Pahat. The first objective aimed to identify the intention levels of baby boomers and Gen X to use cashless payments in Batu Pahat, revealing a moderate overall intention. The second objective that to identify the dominant factors influencing baby boomers and Gen X's intention to use cashless payment in Batu Pahat, with results indicating that perceived usefulness (PU) holds the highest influence. Lastly, the third objective that to determine the relationship between the factors and baby boomers and Gen X's intention to use

cashless payment in Batu Pahat. The findings demonstrate positive and significant relationship between all independent variables—PU, PEOU, PR and T—and the intention to use cashless payment.

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Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

Author Contribution

The authors confirm contribution to the paper as follows: ***study conception and design:*** *Lew Mei Shi, Siti Anisah Atan;* ***data collection:*** *Lew Mei Shi;* ***analysis and interpretation of results:*** *Lew Mei Shi;* ***draft manuscript preparation:*** *Lew Mei Shi, Siti Anisah Atan. All authors reviewed the results and approved the final version of the manuscript.*

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