Assessing Resistance towards the Adoption of Cashless Payment: A Survey among Generation X in Klang Valley

Mary Wang Xie Ling[1], Chua Jin Vern[2], Ho Hong Ren[3], Mohd Remie Mohd Johan[4*], Nursyamilah Annuar[5]

[123] Department of Management Studies, Faculty of Business and Management, UCSI University, 56000 Cheras, Kuala Lumpur, Malaysia.
[4]TAR UMT, Pahang Branch, 25200 Kuantan, Pahang.
[5] Faculty of Business and Management, Universiti Teknologi MARA, Cawangan Perlis, Kampus Arau, 02600 Arau Perlis, Malaysia.

Authors' Email Address: [1]1001646019@ucsiuniversity.edu.my, [2]1001954577@ucsiuniversity.edu.my, [3]1001954333@ucsiuniversity.edu.my, [4] remiejohan@gmail.com, [5]nsyamilah@uitm.edu.my

*Corresponding Author

ABSTRACT

Adopting cashless payments at every level, including consumers, businesses, and the government, plays a vital role in Malaysia's transition to an entirely cashless economy. To boost Malaysian consumers' adoption of cashless payments, the barriers that hinder their adoption must first be identified. This study incorporates the obstacles to resistance proposed by the Innovation Resistance Theory (IRT) model with an additional external variable targeted at Gen X due to limited resistance studies on this age cohort in Malaysia. The barriers studied were usage, value, risk, tradition, and merchant acceptance barriers. Thus, this study aims to assess the obstacles that hinder the adoption of cashless payments and identify the relationship between the barriers and resistance towards adopting cashless payments among Gen X in the Klang Valley. The methodology used in this study is a survey approach to distributing questionnaires. Various analyses were performed on the 384 responses from Gen X in the Klang Valley region. The study found that usage, tradition, and image barriers significantly and positively affect resistance towards adopting cashless payment among Gen-Xers in the Klang Valley. However, value, risk, and merchant acceptance barriers did not considerably affect resistance towards adopting cashless payment among Gen-Xers in the Klang Valley. Therefore, it is suggested that future studies delve deeper into the research framework model proposed, which uses the IRT model and the additional external variables presented to gain more valuable insights into consumer resistance.

Keywords: *barriers, cashless payment, Gen X, Innovation Resistance Theory, Klang Valley*

INTRODUCTION

Cashless payment refers to currency exchange whereby buyers do not have any physical currency, primarily using cards or electronic methods (Rahman, Ismail, & Bahri, 2020). Electronic payments provide a more convenient and cost-effective way of transferring funds than actual paper payments.

One of the widely used electronic payments worldwide is cashless payments. The accommodation of high-technology devices and exchanges can be advantageously directed through remote innovation of smartphones. Cashless payment is not dominated by cash in the mental framework of actual paper money or coins but by data exchange between executing parties. In other words, cashless payment involves a change in the purchaser. Customers could diminish the use of cash as a labour and product transaction tool by allowing electronic payment, such as computerized money and e-wallets (Ishak, 2020). People could quickly transfer their money online for payment as more and more businesses offer such services (Johan, Syed & Adnan, 2022). There are various cashless payment methods: cheque, online transfer, credit or debit card, e-wallets, and more (Reddy, 2022).

According to Mering (2019), 63% of Malaysian buyers use credit cards to pay in instalments, and 57% use web-based banks, often used to pay phone and Internet bills. Additionally, the use of visas to pay for daily expenses is relatively low; as a result, only a quarter of Malaysians use a credit card, most of them between the ages of 35 and 64. Different digital payment methods are preferred on a case-by-case basis (PayNet, 2022). Debit cards and e-wallets are used more for out-of-home spending, i.e., dining out, retail, and grocery. Electronic payment services are mainly used for bill payments, primarily out of necessity (i.e., counters closed due to MCO). After counters reopened, their habit of using cashless payment still continues. All digital payments in this space have increased except for credit card payments. Credit card usage has remained stable due to its relative maturity and mainstream use.

Generation X (Gen X) is defined as those born between 1965 and 1980, aged between 43 and 58 (Schweikert, 2017). Gen X in Malaysia grew as Malaysia started to industrialize with labour-driven and low-end manufacturing. Gen-Xers grew up under the New Economic Policy, differentiating them from baby boomers born when Malaysia was trying to achieve independence. Gen-Xers witnessed Malaysia's transformation from an agriculture-based to a high-end manufacturing nation (Lau, 2014). Based on data collected by Mystarjobs in a training workshop, Gen-Xers' core values and belief systems are such as wanting security and stability, being risk-averse, having to go being ls and objective-oriented, having the adaptability, having responsible traits such as the ability to manage time, multi-task, and being a team player. Gen-Xers are considered digital immigrants with perceived differences in attitudes towards digitality. For example, 69% of Gen-Xers own a PC or laptop but can still live their everyday lives without digital devices, which is an unimaginable feat for Gen Zs (Alt & Anetta, 2022). Meanwhile, in Malaysia, the LinkedIn Opportunity Index 2020 survey found that 33% of Gen-Xers face obstacles in keeping up with new technological advances in our rapidly developing times (Ram, 2020).

PROBLEM STATEMENT

Research by PayNet Digital (2022) shows that the widespread use of cash at 78% is still high, although this has declined by 11% since the pandemic. Even though the study conducted by CLEAR on behalf of Visa in Malaysia showed that the pandemic had prompted Malaysian consumers to choose digital payments over cash in the longer term, some barriers hinder the adoption of cashless payments even though the adoption is on the rise. As digital payments are pivotal to Malaysia's financial services industry, it is essential to identify such barriers to increase adoption. The distribution of the percentage of usage of digital payments for each age group is 18 to 24 years old (19.2%), 25 to 34 years old (30.1%), 35 to 44 years old (23.9 %), 45 to 54 years old (16.6%) and 55 to 54 years old (10.1%) based on Appendix A. Gen X mainly belongs to the age group of 45 to 54 years old in which usage is relatively low at 16.6%. Based on the above lower percentage of adoption, it is essential to convince Gen X to adopt cashless payments, as Gen X makes up to 45% of the Malaysian workforce (Choong, 2020).

The Edge Markets Malaysia covered an article involving an older woman's encounter with an eatery. The older woman was in a quandary when the eatery informed her that they only accepted cashless payments, such as digital payments or by credit or debit cards. As someone who had never dared make cashless payments on her own, she cancelled her order and left the premises promptly, feeling upset and anxious (Subramaniam, 2022). Thus, this situation highlights the drawbacks to the adoption of cashless payments. Even though merchants cannot technically reject cash payments, there will come a

time when cashless payments eventually become the default emphasizing the importance of the transition to cashless payments, such as in China (Subramaniam, 2022). China has taken a step closer to an entirely cashless economy after two private banks terminate services for banknotes and coins (Ye, 2022). The transition may take some time, but it is happening faster due to the pandemic, as people who were reluctant before are now adopting such payment methods (Subramaniam, 2022).

Significance of the Study

According to Pay Net Malaysia (2021), going cashless has economic benefits; their analysis is in the Malaysian environment based on Roubini Thought Lab's Report for Visa in 2018. The report stated that Malaysia (using Kuala Lumpur as a proxy) will gain a net positive impact of USD 4 billion by 2032 based on a 15-year projection from 2017 to 2032. The study also projected an estimated net positive impact for the government, businesses, and consumers of USD 6.7 billion by 2032. The total estimated net positive impact for the government is USD 2.404 billion, broken down into benefits of higher tax revenue (USD 1.264 billion), reduction in administrative expenses (USD 1.1 billion) and reduction in cash-related crimes (USD 0.004 billion). For businesses, the benefits are such as reduced theft and pilferage, labour time savings, savings from reduced float times and costs, the potential for more significant sales through digital channels, better data to improve customer service, leverage data for targeted promotional campaigns, convenient inventory and expense tracking, and utilizing data to improve loyalty schemes, which will lead to a reduction in cost for paper (USD 13.1 billion) but would also incur a cost of USD 10.7 billion for going cashless, in which going cashless would reduce the total expense. Thus, the estimated net positive impact for businesses would be USD 4.2 billion, including savings from e-payments of USD 1.8 million. The estimated net positive impact for consumers is USD 0.171 billion, including increased interest earned, time saved from cash-related activities, lesser late fees incurred, and reduced cash-related crimes.

Based on this, cashless payments are perceived to offer numerous benefits, including revenue gains, cost reduction, savings on expenses, time efficiency, and resource optimization. However, the drawbacks of adoption must be addressed to realize the full benefits and gains of going cashless. Thus, it is essential to identify the barriers that hinder Gen X from adopting cashless payments, as Gen X is now at the prime of their careers, wielding significant spending power. In addition, Gen X has been identified as having an "I do not mind" attitude towards adopting digital payments. In addition, Gen X is perceived to have a moderate technological barrier in adopting digital payments (PayNet Digital, 2022). Therefore, assessing the drawbacks to adopting cashless payment in Gen X is vital. Gen X is more likely to adopt cashless payments due to its "I do not mind" attitude, which will aid in developing solutions to overcome such drawbacks.

RESEARCH OBJECTIVES

1. To investigate the relationship between functional barriers and resistance towards the adoption of cashless payments among Gen X in Klang Valley
2. To explore the relationship between psychological barriers and resistance towards the adoption of cashless payments among Gen X in Klang Valley
3. To examine the relationship between merchant acceptance barrier and resistance towards the adoption of cashless payments among Gen X in Klang Valley

RESEARCH QUESTIONS

1. What is the relationship between functional barriers and resistance towards the adoption of cashless payments among Gen X in Klang Valley?
2. What is the relationship between psychological barriers and resistance towards the adoption of cashless payments among Gen X in Klang Valley?
3. What is the relationship between merchant acceptance barrier and resistance towards the adoption of cashless payments among Gen X in Klang Valley?

LITERATURE REVIEW

Cashless payments, at the most basic level, are not made with cash, such as banknotes or coins (Cwynar, Świecka, Filipek, & Porzak 2021). Based on a Polish study, Cwynar et al. (2021) divided cashless payments into three categories: card payments, mobile payments, and online payments. Cwynar et al. (2021) categorized card payments as a traditional method, while mobile and online payment methods were collectively treated as innovations to determine consumers' literacy in cashless payments. However, different works of literature define cashless payments differently. Auer, Cornelli, and Frost (2020) include card payments as digital payments, while Sahay, Allmen, Lahreche, Khera, Ogawa, Bazarbash, and Beaton (2020) exclude cards. Kim, Kumar, and O'Brien (2021) use a different term: "electronic payments." Kaur, Dhir, Ray, Bala, and Khalil (2020a) use mobile payment solutions. The study also acknowledges that there is currently no standard terminology deciding the classification of cashless payments, coupled with the blurred dividing lines between payment types, such as card payments that can be made with or without the card via mobile applications or the Internet. Thus, this study defines cashless payments as card payments, mobile payments, and online payments.

The Innovation Resistance Theory (IRT) model developed by Ram and Sheth (1989) facilitates understanding consumer resistance to innovations. Innovation resistance represents the behaviour displayed by a consumer to resist the adoption of innovation because it poses potential deviances affecting their satisfactory status quo or conflicts with their current belief structure (Seth, Talwar, Bhatia, Saxena and Dhir, 2020). According to Kleijnen, Lee and Wetzels (2009), innovation resistance has a few stages: postponement, rejection, and opposition. During the postponement stage, individuals will passively deny the innovation's use. The rejection stage is when individuals actively deny the use of the innovation, clearly refusing to adopt it. When individuals reach the opposition stage, they reach the highest form of resistance on the spectrum. They would actively counter the innovation's adoption, such as through negative word of mouth (Kleijnen et al., 2009).

Usage Barrier

The usage barrier addresses the resistance caused by alterations induced by an innovation compared to existing systems (Kaur et al., 2020a). Khan and Kim (2009) further suggest that usage barriers result from innovation triggers that cause inconvenience or conflicts, disturbing the existing practices, routines or habits of consumers and inducing complications with additional problems instead of offering convenience. The usage barrier is illustrated as the additional effort needed for learning, usage and adaptability to the new system and modifying existing routines and habits in the context of mobile payment solutions (Kaur et al., 2020a). In addition, the complexity of the innovation would give rise to potential challenges for users who are unfamiliar with it (Kaur et al., 2020a). In the cashless payment context, the usage barrier represents the usability of cashless payments, with perceived ease of use and usefulness as significant precursors in determining user adoption (Balakrishnan & Shuib, 2012). Thus, this study regards the usage barrier as the usability of cashless payments as an innovation and the changes consumers need to adopt.

Usage barrier is a vital factor influencing the adoption of newer innovations in Gen X Malaysia, supported by various studies such as in mobile commerce (Moorthy, Ling, Fatt, Yee, Yin, Yee & Wei, 2017) and PayPal mobile payment adoption (Low, 2016). The studies had a common finding stating that the higher the usage barrier, the lower the consumers' adoption. In the cashless payment space, the usage barrier is a dominant variable capable of affecting adoption, such as in mobile payment solutions in India (Kaur et al., 2020a), in Malaysia: e-wallets (Cheng, Cheong, Lee, Lim, & Mok, 2018; Anuar, Nik Mahdi, Nik Hashim, Mohamad, Zainuddin, Azmi & Wan Zulkiffli, 2020) and m-wallets (Leong, Hew & Wei, 2020). These studies commonly found that usage barriers impact the adoption of such payment methods meaning that when consumers find the payment method challenging to use, they lower the adoption. Leong et al. (2020) also found that the usage barrier has the most substantial effect on resistance in their study. In mobile banking, usage barriers were found to affect adoption positively (Yu & Chantub, 2016). Yu and Chantub (2016) further suggested that the ease of use of mobile banking, such as through user-friendly designs and interfaces, will reduce consumer resistance towards the

innovation. Singh and Sharma (2022) further state that if Gen X users feel that mobile payments are simple, they will find them helpful.

Value Barrier

Value barriers represent resistance based on the cost perceived of the innovation compared to its substitutes in price value and performance (Leong et al., 2020). Value barriers occur due to the deviation from a consumer's existing value system concerning achieving an equilibrium between the cost of using and learning to adopt the innovation and its advantages (Morar, 2013). Kaur et al. (2020a) state that, to lower the value barriers, the innovation should be able to compensate users for their effort in learning and adapting to using the innovation for mobile payment solutions. Cheng et al. (2018) state that the value barrier refers to consumers' unwillingness to adopt the innovation of e-wallets due to cash imparting a higher value to them than e-wallets. Leong et al. (2020) state that in the context of m-wallet, the innovation will face value barrier resistance if consumers perceive that the cost-to-performance ratio is too high. Therefore, our study refers to value barriers of cashless payments as resistance towards innovation due to the perceived cost of using cashless payments being higher than its substitute (cash) compared to its expected effort required; the value provided and performance.

The typical finding of value barrier relates to hostile adoption intentions in different contexts, such as mobile services (Joachim, Spieth & Heidenreich, 2018) and food delivery applications (Kaur et al., 2020b). Most researchers found value barriers and resistance to have a positive association with resistance. Gen X in Malaysia was positively associated with resistance, such as in PayPal payment (Low, 2016) and m-commerce (Moorthy et al., 2017). Value barriers and resistance were also positively related, such as in the cashless payment space: mobile banking (Yu & Chantub, 2016), e-wallets (Cheng et al., 2018) and m-wallets (Leong et al., 2020). Even though the findings were similar, the value barrier was one of the weakest predictors among other significant barriers proposed by Leong et al. (2020) in the Malaysian context.

Risk Barrier

The innovation process usually entails risk, which is often inevitable (Humbani & Wiese, 2019). Since uncertainty is inherent in innovations, consumers usually perceive certain risks for which the risk barrier is proportional to the level of risk that the innovation poses (Leong et al., 2020). Thus, risk barriers are associated with resistance resulting from uncertainties innate to innovation (Kaur et al., 2020a). Ram and Sheth (1989) proposed four types of innovation risks: physical, economic, functional, and social. In mobile payments relevant to cashless payments, Cham, Cheah, Cheng, and Lim (2021) proposed that consumers (elderly) perceive potential risks such as privacy, security, and financial and operational risks. Privacy risks refer to the possibility that a user's data is exposed using a technological product or service (Featherman & Pavlou, 2003).

Risk barriers, in general, were found to impact resistance to cashless payments significantly: mobile payment in elderlies (Cham et al., 2021); e-wallets (Cheng et al., 2018); m-wallets being the third strongest predictor in their study (Leong et al., 2020); and digital payment adoption (Balakrishnan & Shuib, 2021). Risk barriers were also found to significantly influence adoption among Gen X in Malaysia, such as in mobile commerce (Chan et al., 2015) and PayPal payments (Low, 2016). In the context of our study, risk barriers represent the resistance toward cashless payments due to the uncertainty that the innovation brings.

Tradition Barrier

Kaur et al. (2020a) stated that tradition can shape the success of any goods or service. Traditions are usually firmly embedded in society and everyone's daily lives. Any possible conflict with their traditions would result in active resistance and even opposition (e.g., negative word of mouth, boycott) from consumers (Andrew & Klien, 2003). Tradition barriers refer to the obstacles a consumer faces that change the consumer's established traditions, such as existing routines, cultures, and behaviours, due to

technological innovation (Mahatanankoon & Vila-Ruiz, 2008). Ma and Lee (2019) state that resistance will follow if consumers are required to defy their existing traditions or deviate from social norms to adopt the innovation. In the context of cashless payments, consumers have been using cash for transactions in their daily lives and routines; the move to cashless payments would alter their existing traditions, causing discomfort and leading to resistance to adopting cashless payments.

Traditional barriers are associated with adoption and resistance to innovation. Traditional barriers negatively affect the adoption of innovations such as mobile banking (Laukkanen, 2016) and food delivery applications (Kaur et al., 2020b). Cham et al. (2021) perceived stickiness to cash as one of the traditional barriers to adopting cashless payments. In the cashless payment space, traditional barriers were found to affect resistance positively, such as affecting mobile payment in the hospitality sector in India (Khanra, Dhir, Kaur & Joseph, 2021); in the Malaysian context, e-wallets (Cheng et al., 2018) and Leong et al. (2020) found that tradition barriers are the second strongest predictor of resistance towards m-wallets. Tradition barriers were also found to significantly influence adoption among Gen X in Malaysia, such as in mobile commerce (Chan et al., 2015; Moorthy et al., 2017) and PayPal payment (Low, 2016). In this study context, traditional barriers are resistances experienced by consumers in breaking their tradition of using cash to transition to cashless payments.

Image Barrier

Image barriers are related to innovations that assume a particular identity related to their origins, such as country of origin, product category, or brand (Laukkanen, Sinkkonen, Laukkanen & Kivijarvi, 2007). Image barriers also emerge when consumers develop a negative impression of the innovation due to the complexity involved in using the innovation (Lian & Yen, 2013; Laukkanen, 2016). Mani and Chouk (2018) further state that there is a direct relationship between consumers' perceived image of product complexity and the rejection of technological invention. Image barriers negatively influence adoption, such as mobile banking being the second most significant inhibitor (Laukkanen, 2016) and online travelling agencies (Talwar, Dhir, Kaur & Mäntymäki, 2020a). Image barriers were also associated with the adoption and resistance toward cashless payment systems, such as in mobile payment in Taiwan, with image barriers having the most significant impact (Lin, Lee, Tang, Kang, Lin, & Lin, 2019) and mobile payments in the hospitality industry (Khanra et al., 2021). Image barriers negatively influenced Gen X adoption in mobile commerce in Malaysia (Chan et al., 2015; Moorthy et al., 2017) and PayPal payment (Low, 2016). Image barriers in our study represent consumer resistance due to negative impressions of cashless payments regarding the complexity of adoption.

Merchant Acceptance Barrier

The success of payment methods such as cashless payment systems also depends highly on merchant acceptance and extensive use of technology (Singa & Sinha, 2020). Singh and Singha (2020) found that the adoption of cashless payments of e-wallets still needs to be higher among merchants. Moghavvemi, Mei, Phoong, and Phoong (2021) studied 15 small, medium, and large merchants from different industries in Malaysia. They found that merchants need help accepting cashless payments, which causes them not to accept or adopt the innovation. Moghavvemi et al. (2021) further found a need for merchants willing to be the first mover to offer such cashless payment services. The study also found that some merchants rather wait to see how the cashless payment scene in Malaysia unfolds before deciding on their adoption. The results were that 6 out of 15 companies still needed to adopt the cashless payment of mobile payments (Moghavvemi et al., 2021). From this, we see that merchants in Malaysia take different approaches in their acceptance of cashless payment systems in terms of willingness to adopt the innovation. In this study context, merchant acceptance barriers represent consumers' resistance to adopting cashless payments due to merchants' unacceptance of cashless payments as a mode of payment (Figure 1).
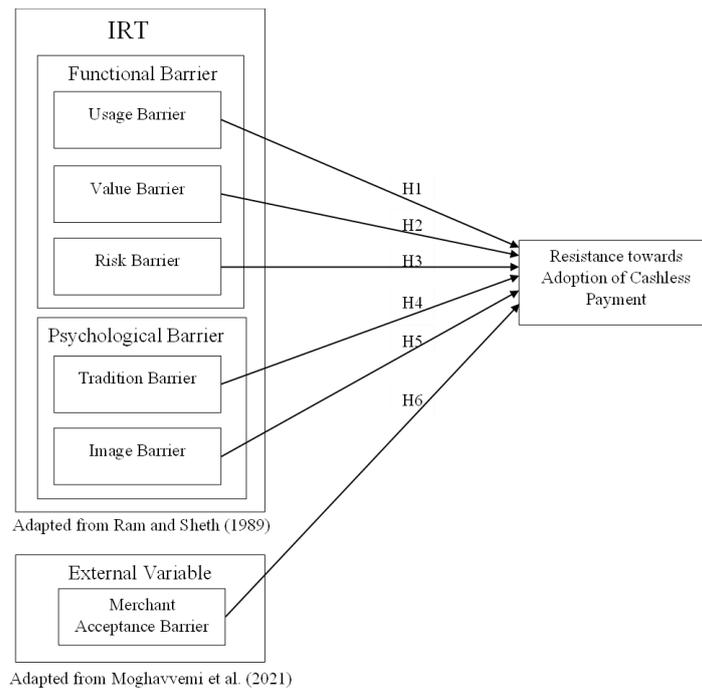
Figure 1: Conceptual Framework

METHODOLOGY

This is a quantitative study in which researchers investigate the link between barriers and resistance to validate the theories proposed by testing the hypotheses developed. The target population is Gen X consumers in Klang Valley, born between 1965 and 1980 and aged between 43 and 58 (Schweikert, 2017). Simple random sampling was used to obtain the needed sample for this research regarding age restrictions. The sample size for this study was based on Krejcie and Morgan's (1970) table for sampling size determinants for research activities. According to Department of Statistics Malaysia (DOSM, 2017), there are more than population size of 4 million Gen X consumers in Klang Valley in the year of 2020; therefore, based on a confidence level of 95% with a 5% margin error, the minimum sample size needed is 384. However, cross-sectional data collection was also applied to this study.

Self-administered questionnaires on Google Forms were distributed via social media. A 5-point Likert scale (where 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, and 5= Strongly Agree) was used to measure the attitudinal responses for the independent and dependent variables. The questionnaire was designed in three sections: Sections A, B and C. Section A is related to the respondents' personal information regarding their demographic profile: gender, age, race/ethnicity, marital status, highest education completed, employment status, and monthly income. Section C relates to the six independent and dependent variables.

A pilot test with Cronbach's alpha was conducted before distributing the questionnaires to the respondents. According to Johanson and Brooks (2010), a sample size of 30 would be reasonable for conducting a pilot test. Therefore, we used a sample size of 30 to conduct our pilot test. In addition, the researchers used SPSS to obtain reliability statistics such as Cronbach's alpha, inferential statistics such as the Pearson correlation coefficient, and multiple linear regression statistics.

RESULTS AND DISCUSSIONS

For the pilot study, the data collected shows that the constructs used to test the independent variables have very good reliability based on Table 1 as all the alpha values that are greater than 0.8 ($\alpha \geq 0.8$) and the value of alpha for resistance towards adoption is between 0.8 to 0.7 ($0.8 > \alpha \geq 0.7$) indicating good

reliability (Sekaran & Bougie, 2016). Therefore, the items are consistent enough to indicate that the measure is reliable.

Table 1: Reliability Analysis

Variables	No of Items	Cronbach's Alpha	Reliability
Usage Barrier (UB)	4	0.921	Very Good
Value Barrier (VB)	5	0.946	Very Good
Risk Barrier (RB)	5	0.987	Very Good
Tradition Barrier (TB)	3	0.813	Very Good
Image Barrier (IB)	3	0.924	Very Good
Merchants Acceptance Barrier (MAB)	4	0.946	Very Good
Resistance towards Adoption (R)	5	0.774	Good

According to Table 2, all independent variables are positively correlated, with correlation values ranging from 0.433 to 0.794. In addition, there is a positive correlation between all barriers and resistance towards adoption, with correlation values ranging from 0.381 to 0.796. As such, all the independent variables show a significant relationship with the dependent variable, as their p-values are below 0.05.

Table 2: Pearson Correlation Analysis

	UB	VB	RB	TB	IB	MAB	R
UB	1						
VB	.738***	1					
	.000						
RB	.537***	.529***	1				
	.000	.000					
TB	.745***	.719***	.679***	1			
	.000	.000	.000				
IB	.794***	.723***	.676***	.773***	1		
	.000	.000	.000	.000			
MAB	.442***	.538***	.449***	.506***	.433***	1	
	.000	.000	.000	.000	.000		
R	.775***	.657***	.546***	.706***	.796***	.381***	1
	.000	.000	.000	.000	.000	.000	

Note: ***, ** and * denote the 1, 5 and 10% significance levels."

Table 3 shows a multiple linear regression summary of the study. The R-squared value is the percentage of variation in the dependent variable explained by the independent variables. For this study, the R-squared value was 0.694, which indicated that 69.4% of the variation in the dependent variable (resistance towards adoption) could be explained by all six independent variables used in the study: usage barrier, value barrier, risk barrier, tradition barrier, image barrier and merchant acceptance barrier. However, the model still failed to explain 30.6%, suggesting the presence of other barriers which will cause the resistance of Gen X in Klang Valley towards adopting cashless payments, which were not discussed in this study.

Table 3: Model Summary of Multiple Linear Regression

Model	R .	R Square	Adjusted R Square
1	0.833a	0.694	0.690

According to Table 4, the p-value for UB and IB is <0.001, and for TB, the p-value is 0.024, showing that p < 0.05, indicates that these independent variables have a significant relationship in Gen X resistance towards the adoption of cashless payments. The t-values for UB, IB and TB are greater than 1, indicating stronger evidence to reject the null hypothesis. The strongest indicator is IB, with a t-value of 7.592, followed by UB (t=6.470) and TB (t=2.273). However, the p-values for VB (p=0.564), RB (p=0.745) and MAB (p=0.436) show that p>0.05, indicating there is no significant relationship in Gen X resistance towards the adoption of cashless payments. The t-values for VB, RB and MAB that are closer to 1 also indicate stronger evidence to accept the null hypothesis.

Table 4: Coefficients in Regression Analysis

	Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	0.256	0.092		2.774	0.006	0.075	0.437
	UB	0.311	0.048	0.341	6.470	0.000***	0.217	0.406
	VB	0.025	0.043	0.028	0.577	0.564	-0.060	0.110
	RB	-0.011	0.032	-0.014	-0.325	0.745	-0.074	0.053
	TB	0.104	0.046	0.121	2.273	0.024**	0.014	0.194
	IB	0.355	0.046	0.433	7.592	0.000***	0.263	0.447
	MAB	-0.026	0.033	-0.027	-0.780	0.436	-0.091	0.390

Note: ***, ** and * denote the 1, 5 and 10% significance levels."

Therefore, the study found that the UB, IB and TB have a significant positive relationship and resistance towards adopting cashless payments among Gen X in Klang Valley, having p-values of less than 0.05. The strongest barrier that caused resistance to adoption was identified as IB, indicating that the respondents resisted adopting cashless payments due to the perceived image of cashless payments' complexity. The findings are congruent with previous studies which had similar findings where IB was found to be associated with resistance towards the adoption of cashless payment systems, such as in mobile payments in Taiwan (Lin et al., 2019) and mobile payments in the hospitality industry in India (Khanra et al., 2021). The second greatest impediment that causes Gen X in Klang Valley to resist adopting cashless payments is identified as UB, where the respondents find it challenging to adopt cashless payments due to the additional effort needed to learn how to use cashless payments. The findings are coherent with literature in the Malaysian context for e-wallets Cheng et al. (2018) and m-

wallets Leong et al. (2020). The third barrier significant to the study is TB showing a positive relationship towards resistance to adopting cashless payments. This demonstrates that Gen X respondents in Klang Valley are resistant to the adoption due to their inability to break their tradition of using cash as a mode of payment. The findings are aligned with previous studies in the Malaysian context, such as among seniors (Cham et al., 2021) due to their stickiness to cash, as cash is a form of tradition, in e-wallets (Cheng et al., 2018) and m-wallets (Leong et al., 2020).

In addition, the study further found that although VB had a positive relationship with resistance towards adopting cashless payments among Gen X in Klang Valley, the relationship was proven nonsignificant with a p-value of more than 0.05. Thus, based on the responses received for VB, there is insufficient evidence that Gen X in Klang Valley resisted adopting cashless payments due to the perceived cost of using cashless payments being higher than its substitute (cash) compared to its expected effort required the value provided and performance. These findings are consistent with the results reported by Kaur et al. (2020a) and Khanra et al. (2021). The study also found that RB and MAB have a negative nonsignificant relationship with resistance towards adopting cashless payments among Gen X in Klang Valley, in which both p-values exceed 0.05. These findings are congruent with Samy et al. (2021) and Kumar and Dixit (2020).

CONCLUSION

This research has proven that usage, tradition, and image barriers have a significant positive relationship with resistance towards the adoption of cashless payment among Gen X in Klang Valley. However, value, risk, and merchant acceptance barriers are proven to have a nonsignificant relationship with resistance towards the adoption of cashless payment among Gen X in the Klang Valley. Thus, H1, H4, and H5 are accepted, while H2, H3, and H6 are rejected in this study.

The findings in this study contribute to theoretical and practical insights into the barriers faced by Gen X in the Klang Valley in their resistance towards adopting cashless payments. Including MAB in the IRT model has offered new theoretical contributions to cashless payment resistance literature as it offers a fresh perspective due to limited studies on this resistance barrier. The nonsignificant relationships between the independent variables (VB, RB, and MAB) further support existing literature with similar findings. The practical implication includes the significance of the results towards the economic whole, including consumers, merchants, cashless payment providers and the Malaysian government. The spotlight is on cashless payment providers, where identifying relationships between barriers enables them to focus on targeted interventions towards reducing currently significant barriers affecting consumer resistance for them to implement effective strategies. The findings also provide insights for the Malaysian government on expediting the transition to a cashless economy. As it identifies the barriers inhibiting the adoption of cashless payments, government bodies can work with cashless payment providers to reduce such barriers and increase adoption. Furthermore, consumers and merchants can generally reap the benefits offered by cashless payment providers through their efforts to reduce the barriers above.

Future research should be geared towards improving reliability, validity, and generalizability. Future researchers should increase the generalizability of their study by collecting data from each state in Malaysia, including both West and East Malaysia, to have a more accurate representation of the Gen X Malaysian consumer population. We also propose that future studies include rural areas and identify the barriers that cause resistance to adopting cashless payments. Additionally, future researchers may employ a probability sampling method that better represents the general population and reduces biases. Another recommendation is for researchers to use a qualitative approach to supplement their quantitative findings, as it offers a more in-depth comprehension of cashless payments.

ACKNOWLEDGEMENTS

who have brought us up, and supported us through this educational journey. We would also like to thank Dr. Mohd Remie Mohd Johan for his support upon the completion of this article.

FUNDING

AUTHORS' CONTRIBUTION

Wang, M. X. L. and Chua, J. V. conceived and planned the study and carried out the data collection and analysis. Johan, M. R. M. provided the guidelines throughout the writing process, as well as helping with post-article refinements. Ho, H. R. provided final comments and revision guidelines. All authors provided critical feedback and helped shape the research, analysis, and manuscript.

CONFLICT OF INTEREST DECLARATION

We certify that the article is the authors' and co-authors' original work. The article has not received prior publication and is not under consideration for publication elsewhere. This research/manuscript has not been submitted for publication nor has it been published in whole or in part elsewhere. We testify to the fact that all authors have contributed significantly to the work, validity and legitimacy of the data and its interpretation for submission to Jurnal Intelek.

REFERENCES

Agárdi, I., & Alt, M. A. (2022). Do digital natives use mobile payment differently than digital immigrants? A comparative study between Gen-X and Z. *Electronic Commerce Research*. https://doi.org/10.1007/s10660-022-09537-9

Allen, R. (2020, November 17). *The technology acceptance model*. Smart Insights. https://www.smartinsights.com/manage-digital-transformation/digital- transformation-strategy/digital-marketing-models-technology-acceptance-model/

Al-Saedi, K., Al-Emran, M., Ramayah, T., & Abusham, E. (2020). Developing a general extended UTAUT model for M-payment adoption. *Technology in Society*, *62*, 101293. https://doi.org/10.1016/j.techsoc.2020.101293

Auer, R., Cornelli, G., & Frost, J. (2020, April 3). *Covid-19, cash, and the future of payments*. BIS Bulletin. https://www.bis.org/publ/bisbull03.pdf

Azman, H., Cheong, S. L., & Yahayac, S. N. (2021). Factors affecting adoption of e-wallet among Gen Y in Pahang. *Journal of Technology Management and Technopreneurship*, *9*(2), 102–112.

Anuar, N. I. M., Nik Mahdi, N. M., Nik Hashim, N. A. A., Mohamad, S. R., Zainuddin, S.A., Azmi, N. F., & Wan Zulkiffli, W. F. (2020). The barriers towards the adoptionof E-Wallet payment system. *International Journal of Engineering Research and Technology*, *13*(11), 3772–3777. https://doi.org/10.37624/ijert/13.11.2020.3772-3777

Balakrishnan, V., & Shuib, N. L. M. (2021). Drivers and inhibitors for digital payment adoption using the cashless society readiness-adoption model in Malaysia. *Technology in Society*, *65*, 101554. https://doi.org/10.1016/j.techsoc.2021.101554

Borraz-Mora, J., Bordonaba-Juste, V., & Polo-Redondo, Y. (2017). Functional barriers to the adoption of electronic banking: The moderating effect of gender. *Revista de Economía Aplicada*, *25*(75), 87-107.

Cham, T. H., Cheah, J. H., Cheng, B. L., & Lim, X. J. (2021). I am too old for this! Barriers contributing to the non-adoption of mobile payment. *International Journal of Bank*

Marketing, *40*(5), 1017–1050. https://doi.org/10.1108/ijbm-06-2021-0283

Cheah, S. Y., Chua, Y. C., Foo, J. E., & Tan, H. P. (2021). Factors of resistance towards e-wallet by people who aged 40 and above in Malaysia. *Qualitative and Quantitative Research Review*, *6*(3).

Cheng, S. W., Cheong, M. C., Lee, J. L., Lim, J. T., & Mok, W. K. (2018, August). *Curbson modern technology: Barriers of resistance towards e-wallet in Malaysia*. Universiti Tunku Abdul Rahman. http://eprints.utar.edu.my/3073/1/fyp_AC_2018_CSW.pdf

Chian, S. Y., & Chantatub, W. (2016). Consumers' resistance to using mobile banking: Evidence from Thailand and Taiwan. *International Journal of Electronic Commerce Studies*, *7*(1), 21–38.https://doi.org/10.7903/ijecs.1375

Chong, T.-P., William Choo, K.-S., Yip, Y.-S., Chan, P.-Y., Julian Teh, H.-L., & Ng, S.- S. (2019). An adoption of FinTech service in Malaysia. *South East Asia Journal of Contemporary Business, Economics and Law*, *18*(5), 134–147.

Choong, J. (2020, April 21). From 'Baby Boomers' to Gen Z, study shows Malaysia's jobseekers have different priorities. *Malay Mail.* https://www.malaymail.com/news/malaysia/2020/04/21/from-baby-boomers-to-gen-z-study-shows-malaysias-jobseekers-have-different/1858910#:%7E:text=The%20study%20revealed%20that%20most,and%2040%20per%20cent%20respectively

Cooper, D. R., & Schindler, P. S. (2013). *Business research methods, 12th Edition* (12th ed.). McGraw-Hill Education.

Cwynar, A., Świecka, B., Filipek, K., & Porzak, R. (2021). Consumers' knowledge of cashless payments: Development, validation, and usability of a measurement scale. *Journal of Consumer Affairs*, *56*(2), 640–665. https://doi.org/10.1111/joca.12424

Department of Statistics Malaysia [DOSM]. (2017). *Population and demographics on ageing.* Retrieved from https://www.dosm.gov.my/v1/uploads/files/6_Newsletter/Ageing.pdf.

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

Evers, A., Ewer, B., & Brandsen, T. (2014). *Social innovations for social cohesion.* WILCO.

Guo, J., & Bouwman, H. (2016). An analytical framework for an m-payment ecosystem: A merchants' perspective. *Telecommunications Policy*, *40*(2–3), 147–167. https://doi.org/10.1016/j.telpol.2015.09.008

Hew, J. J., Leong, L. Y., Tan, G. W. H., Ooi, K. B., & Lee, V. H. (2019). The age of mobilesocial commerce: An Artificial Neural Network analysis on its resistances. *Technological Forecasting and Social Change*, *144*, 311–324. https://doi.org/10.1016/j.techfore.2017.10.007

Howells, J. (2005). *The management of innovation and technology: The shaping of technology and institutions of the market economy* (1st ed.). SAGE Publications Ltd.

Humbani, M., & Wiese, M. (2019). An integrated framework for the adoption and continuance intention to use mobile payment apps. *International Journal of Bank Marketing*, *37*(2), 646–664. https://doi.org/10.1108/ijbm-03-2018-0072

Indeed. (2022, June 8). 4 common characteristics of Gen-X professionals. *Indeed CareerGuide.* https://www.indeed.com/career-advice/career-development/generation-x- professional-characteristics

Ishak, N. (2020, June). Overview of cashless payment in Malaysia. *International Journal of Accounting, Finance and Business.* http://www.ijafb.com/PDF/IJAFB-2020-27-06-02.pdf

Joachim, V., Spieth, P., & Heidenreich, S. (2018). Active innovation resistance: An empirical study on functional and psychological barriers to innovation adoption in different contexts. *Industrial Marketing Management*, *71*, 95–107. https://doi.org/10.1016/j.indmarman.2017.12.011

Johan, M. R. M., Syed, M. A. M., Adnan, H. M. (2022). Digital media & online buying considerations among Generation Z in Malaysia. *Jurnal Intelek*. *17*(1), 164-180.

John, A., & Klein, J. (2003). The boycott puzzle: Consumer motivations for purchase sacrifice. *Management Science*, *49*(9), 1196-1209.

Johanson, G. A., & Brooks, G. P. (2010). Initial scale development: Sample size for pilot studies.

Educational and Psychological Measurement, *70*(3), 394–400.
https://doi.org/10.1177/0013164409355692

Johnson, V. L., Kiser, A., Washington, R., & Torres, R. (2018). Limitations to the rapid adoption of
M-payment services: Understanding the impact of privacy risk on M-Payment services.
Computers in Human Behavior, *79*, 111–122. https://doi.org/10.1016/j.chb.2017.10.035

Karim, M. W., Haque, A., Ulfy, M. A., Hossain, M. A., & Anis, M. Z. (2020). Factors influencing the
use of e-wallet as a payment method among Malaysian young adults. *Journal of
International Business and Management*, *3*(2), 1–12.https://doi.org/10.37227/jibm-2020-2-
21/

Kaur, H., & Anand, S. (2018). Segmenting Generation Y using the Big Five personality traits:
Understanding differences in fashion consciousness, status consumption andmaterialism.
Young Consumers, *19*(4), 382–401. https://doi.org/10.1108/yc-03-2018-00788

Kaur, P., Dhir, A., Ray, A., Bala, P. K., & Khalil, A. (2020a). Innovation resistance theory perspective
on the use of food delivery applications. *Journal of Enterprise Information Management*,
34(6), 1746–1768. https://doi.org/10.1108/jeim-03-2020-0091

Kaur, P., Dhir, A., Singh, N., Sahu, G., & Almotairi, M. (2020b). An innovation resistance theory
perspective on mobile payment solutions. *Journal of Retailingand Consumer Services*, *55*,
102059. https://doi.org/10.1016/j.jretconser.2020.102059

Khan, K., & Kim, H. (2009). *Factors affecting consumer resistance to innovation*. Jonkoping
University. http://www.diva-portal.org/smash/get/diva2:223332/FULLTEXT02

Khanra, S., Dhir, A., Kaur, P., & Joseph, R. P. (2021). Factors influencing the adoption postponement
of mobile payment services in the hospitality sector during a pandemic. *Journal of Hospitality
and Tourism Management*, *46*, 26–39. https://doi.org/10.1016/j.jhtm.2020.11.004

Kim, L., Kumar, R., & O'Brien, S. (2021, February 3). *2020 findings from the diary of consumer
payment choice*. Federal Reserve Bank of San Francisco.
https://www.frbsf.org/cash/publications/fed-notes/2020/july/%202020-findings-from-the-
diary-of-consumer-payment-choice/

Kleijnen, M., Lee, N., & Wetzels, M. (2009). An exploration of consumer resistance to innovation
and its antecedents. *Journal of Economic Psychology*, *30*(3), 344–357.
https://doi.org/10.1016/j.joep.2009.02.004

Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd ed.). NewAge
International Pvt Ltd Publishers, 64.

Kraus, M. (2017). Comparing Gen-X and Generation Y on their preferred emotional leadership
style. *Journal of applied leadership and management*, 5, 62-75.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities.
Educational and Psychological Measurement, *30*(3), 607-610.

Kumar, N., & Dixit, B. (2020). Comparative analysis of the barriers in the growth of cashless
transactions in rural and urban areas. *International Journal of Research in Commerce and
Management*. https://ijrcm.org.in/download.php?name=ijrcm-1-IJRCM-1_vol-
11_2020_issue-07-art-03.pdf&path=uploaddata/ijrcm-1-IJRCM-1_vol-11_2020_issue-07-art-
03.pdf

Lau, U. H., Lee, L. E., Kang, L. D., Loo, L. S., Ooi, S. X., Lee, V. H., Loh, X. M., & Tan, G. H. W.
(2021). Mobile payment adoption: Barriers for baby boomers in Malaysia. *Proceedings of
International Conference on Emerging Technologies and Intelligent Systems*, *299*, 568–579.
https://doi.org/10.1007/978-3-030-82616-1_47

Lau, U. H., Lee, L. E., Lew, D. K., Loo, L. S., & Ooi, S. X. (2018, April). *The awakening frontier:
Barriers repelling Baby Boomers from adopting mobile payment in Malaysia.* Universiti
Tunku Abdul Rahman. http://eprints.utar.edu.my/2821/1/fyp_AC_2018_LUH_-_1401647.pdf

Laukkanen, T. (2016). Consumer adoption versus rejection decisions in seemingly similar service
innovations: The case of the Internet and mobile banking. *Journal of Business Research*,
69(7), 2432–2439.https://doi.org/10.1016/j.jbusres.2016.01.013

Laukkanen, T., Sinkkonen, S., Laukkanen, P., & Kivijarvi, M. (2007). Segmenting bank customers by
resistance to mobile banking. *International Conference on the Management of Mobile
Business (ICMB 2007)* (*pp*. 42-42.) https://doi.org/10.1109/ICMB.2007.57

Leong, L., Hew, T., Ooi, K., & Wei, J. (2020). Predicting mobile wallet resistance: A two-staged

structural equation modeling-artificial neural network approach. *International Journal of Information Management*, *51*, 102047.https://doi.org/10.1016/j.ijinfomgt.2019.102047

Lian, J. W., & Yen, D. C. (2013). To buy or not to buy experience goods online: Perspective of innovation adoption barriers. *Computers in Human Behavior*, *29*(3), 665–672. https://doi.org/10.1016/j.chb.2012.10.009

Lily, L. (2014, February 8). Managing Baby Boomers, Gen-X and Gen-Y at work. *myStarjob*. https://mystarjob.com/articles/story.aspx?file=/2014/2/8/mystarjob_careerguide/1 4365187&sec=mystarjob_careerguide

Lin, C. W., Lee, S. S., Tang, K. Y., Kang, Y. X., Lin, C. C., & Lin, Y. S. (2019). Exploring the users behavior intention on mobile payment by using TAM and IRT. *Proceedings of the 2019 3rd International Conference on E-Society, E-Education and E-Technology*, 11–15. https://doi.org/10.1145/3355966.3355986

Ma, L., & Lee, C. S. (2018). Understanding the barriers to the use of MOOCs in a developing country: An innovation resistance perspective. *Journal of Educational Computing Research*, *57*(3), 571–590.https://doi.org/10.1177/0735633118757732

Mahatanankoon, P., & Vila-Ruiz, J. (2007). Why won't consumers adopt m-commerce?An exploratory study. *Journal of Internet Commerce*, *6*(4), 113–128. https://doi.org/10.1080/15332860802086367

Mani, Z., & Chouk, I. (2018). Consumer resistance to innovation in services: Challenges and barriers in the Internet of Things era. *Journal of Product Innovation Management*, *35*(5), 780–807. https://doi.org/10.1111/jpim.12463

Marikyan, D. (2022). *Technology acceptance model (TAM)*. Theory Hub. https://open.ncl.ac.uk/theories/1/technology-acceptance-model/

May, O. S., Hartini, H., & Yee, L. H. (2021). Investigating factors influencing consumers' intention to adopt e-wallet among Generation Z in Selangor, Malaysia. *Journal of Advanced Research In Business, Marketing, And Supply Chain Management, 5*(1).

McKenna, A. (2021, June 7). Gen-X origin, years, characteristics, & facts. *Encyclopedia Britannica*. https://www.britannica.com/topic/Generation-X

Mohtar, S. B., & Abbas, M. (2015). A conceptual investigation of consumer resistance to innovations. *Middle-East Journal of Scientific Research, 23*(2), 339–346. https://doi.org/10.5829/idosi.mejsr.2015.23.02.22123

Moghavvemi, S., Mei, T. X., Phoong, S. W., & Phoong, S. Y. (2021). Drivers and barriersof mobile payment adoption: Malaysian merchants' perspective. *Journal of Retailing and Consumer Services, 59,* 102364.

Moorthy, K., Ling, C. S., Fatt, Y. W., Yee, C. M., Yin, C. K., Yee, K. S., & Wei, L. K. (2017). Barriers of mobile commerce adoption intention: Perceptions of Generation X in Malaysia. *Journal of Theoretical and Applied Electronic Commerce Research*, *12*(2), 37–53. https://doi.org/10.4067/s0718-18762017000200004

Muchardie, B. G., Gunawan, A., & Lestari, Y. (2021). Comparison of continuance intention in using e-wallet among Indonesian Gen-X, Y, and Z. *International Conference on Information Management and Technology (ICIMTech)*, 1, 43–48. https://doi.org/10.1109/ICIMTech53080.2021.9535092

Namahoot, K. S., & Jantasri, V. (2022). Integration of UTAUT model in Thailand cashless payment system adoption: The mediating role of perceived risk and trust. *Journal of Science & Technology Policy Management*. https://doi.org/10.1108/jstpm-07-2020-0102

Ng, J. (2022, March 8). More government agencies now accept cashless. *New Straits Times*. https://www.nst.com.my/news/nation/2022/03/777880/more-government- agencies-now-accept-cashless payments#:~:text=ON%20June%208%2C%202021%2C%20the,be%20made%20 cashless%20by%202022

Parment, A. (2013). Generation Y vs. Baby Boomers: Shopping behavior, buyer involvement and implications for retailing. *Journal of Retailing and ConsumerServices*, *20*(2), 189–199. https://doi.org/10.1016/j.jretconser.2012.12.001

PayNet. (2022). *Weathering the pandemic*. https://paynet.my/publications/Digital-Payments-Insights-Study-2022.pdf

PayNet Malaysia. (2022). *Economic benefits of going cashless*.
https://paynet.my/publications/Economic-Benefits-of-Going-Cashless.pdf

Pham, T. V., Hoang, N. Y. N., & Do, H. N. (2021). The "e-wallet generation": How barriers and promoting factors influence intention to use. *The Review of Socionetwork Strategies*, *15*(2), 413–427. https://doi.org/10.1007/s12626-021-00088-3

Putritama, A. (2019). The mobile payment fintech continuance usage intention in Indonesia. *Journal Economia: Review of Business and Economics Studies*, *15*(2), 243–258. https://doi.org/10.21831/economia.v15i2.26403

Rahadi, R. A., Nainggolan, Y. A., Afgani, K. F., Yusliza, M. Y., Faezah, J. N., Ramayah,T., Saputra, J., Muhammad, Z., Farooq, K., & Angelina, C. (2022). Towards a cashless society: Use of electronic payment devices among Generation Z. *International Journal of Data and Network Science*, *6*(1), 137–146. https://doi.org/10.5267/j.ijdns.2021.9.014

Rahayu, R., Mariska, W., & Garantjang, M. F. (2022). E-Payment Innovation in improving bank Indonesia's financial performance. *International Journal ofEconomics, Business and Accounting Research (IJEBAR)*, *6*(1).

Rahman, M., Ismail, I., & Bahri, S. (2020). Analysing consumer adoption of cashless payment in Malaysia. *Digital Business*, *1*(1), 100004. https://doi.org/10.1016/j.digbus.2021.100004

Ram, B. S. (2020, February 12). Survey: Malaysians find ageism a barrier to work opportunities. *The New Straits Times*. https://www.nst.com.my/news/nation/2020/02/564843/survey-malaysians-find-ageism-barrier-work-opportunities

Ram, S., & Sheth, J. N. (1989). Consumer resistance to innovations: The marketing problem and its solutions. *Journal of Consumer Marketing*, *6*(2), 5–14. https://doi.org/10.1108/eum0000000002542

Reddy, Y. S. J., & Suresh, A. (2022). *Cashless transactions Commissioner and Director of Municipal Administration*. Commissioner & Director of Municipal Administration Government of Andhra Pradesh. https://cdma.ap.gov.in/en/cashless-transacthions

Roubini Thought Lab. (2018). Cashless cities: Realizing the benefits of digital Payments. *Visa*. https://usa.visa.com/dam/VCOM/global/visa-everywhere/documents/visa-cashless-cities-report.pdf

Ryu, H. S. (2018). Understanding benefit and risk framework of Fintech adoption: Comparison of early adopters and late adopters. *Proceedings of the 51st Hawaii International Conference on System Sciences*, 3864–3873.

Saadon, M. S. I. B., Kowang, T. O., Aziz, F. A., Hee, O. C., Fei, G. C., Yew, L. K., & Long, C. S. (202 C.E.). E-Wallet acceptance among undergraduates in Malaysia. *TEST Engineering & Management*, *83*, 12990–12998.

Sahay, R., Allmen, U. E., Lahreche, A., Khera, P., Ogawa, S., Bazarbash, M., & Beaton, K. (2020). The promise of Fintech: Financial inclusion in the post COVID-19 Era (Vol. 20/09). *International Monetary Fund*.

Samy, M. L. P., Gunasegaran, H., Tahir, N. A. M., & Calamba, B. B. (2021). Factors influencing customers intention to use mobile payments in Kuala Lumpur. *Research Gate*. https://doi.org/10.13140/RG.2.2.27388.00648/1

Saunders, M. N. K., Lewis, P., & Thornhill, A. (2015). *Research methods for business students (7th Edition)* (7th ed.). Pearson.

Schindler, P. S. (2018). *Business research methods* (13th ed.). McGraw Hill Education.

Schweikert, C., Nedelko, Z., & Delner, N. (2017). Changing business environment: Gamechangers, opportunities and risks: Readings book. *Global Business and Technology Association*.

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach.* (7th ed.). Wiley.

Semerikova, E., Krivosheya, E., & Dobrynin, A. (2019). Perception of acceptance barriers and cashless payments value: Evidence from Russian merchants.*Proceedings of the 12th Economics & Finance Conference, Dubrovnik*. https://doi.org/10.20472/efc.2019.012.021

Seth, H., Talwar, S., Bhatia, A., Saxena, A., & Dhir, A. (2020). Consumer resistance and inertia of retail investors: Development of the resistance adoption inertia continuance (RAIC) framework. *Journal of Retailing and Consumer Services*, *55*,102071.

https://doi.org/10.1016/j.jretconser.2020.102071

Shifaya, F. Z., Narayanan, S., Vinmalar, J., & Avinash, S. (2022). Are Gen-X inching towards digital transactions post pandemic? *Journal of Positive School Psychology*, 6(6), 2918–2922.

Singh, A. K., & Sharma, P. (2022). A study of Indian Gen-X and millennials consumers' intention to use FinTech payment services during COVID-19 pandemic. *Journal of Modelling in Management*, 32, 100574. https://doi.org/10.1108/jm2-02-2022- 0059

Singh, N., & Sinha, N. (2020). How perceived trust mediates merchant's intention to use a mobile wallet technology. *Journal of Retailing and Consumer Services*, 52, 101894. https://doi.org/10.1016/j.jretconser.2019.101894

Statista. (2021, October). *Digital payments - Malaysia.* https://www.statista.com/outlook/dmo/fintech/digital-payments/malaysia#demographics

Subramaniam, P. (2022, April 25). Cover story: The cashless quandary. *The Edge Markets.* https://www.theedgemarkets.com/article/cover-story-cashless-quandary

Talwar, S., Dhir, A., Kaur, P., & Mäntymäki, M. (2020a). Barriers toward purchasing from online travel agencies. *International Journal of Hospitality Management*, 89, 102593. https://doi.org/10.1016/j.ijhm.2020.102593

Talwar, S., Talwar, M., Kaur, P., & Dhir, A. (2020b). Consumers' resistance to digital innovations: A systematic review and framework development. *Australasian Marketing Journal*, 28(4), 286–299. https://doi.org/10.1016/j.ausmj.2020.06.014

Tan, Z., Hao, S., Wan, F. L., & Mamun, A. A. (2021). Adoption of cashless payment practices among Malaysian millennials. *Proceedings of International Conferenceon Emerging Technologies and Intelligent Systems*, 299, 455–468. https://doi.org/10.1007/978-3-030-82616-1_39

Tenk, T. T. M., Yew, H. C., & Heang, L. T. (2020). E-wallet adoption: A case in Malaysia. *International Journal of Research in Commerce and Management Studies (ISSN 2582–2292)*, 2(2), 216–233.

Thakur, R., & Srivastava, M. (2014). Adoption readiness, personal innovativeness, perceived risk and usage intention across customer groups for mobile payment services in India. *Internet Research*, 24(3), 369–392. https://doi.org/10.1108/intr-12-2012-0244

Teo, S. C., Law, P. L., & Koo, A. C. (2020). Factors affecting adoption of e-wallets among youths in Malaysia. *Journal of Information System and Technology Management*, 5(19), 39–50. https://doi.org/10.35631/jistm.519004

Timothy H., R., & Rajesh, I. (2009). Difference in Gen-X and Generation Y: Implications for the organization and markets. *Marketing Management Journal*, 19(2), 91–103. http://www.mmaglobal.org/publications/MMJ/MMJ-Issues/2009-Fall/MMJ-2009-Fall-Vol19-Issue2-Reisenwitz-Iyer-pp91-103.pdf

Tucker III, J. J., & Jones, S. (2020). Environmental, social, and governance investing: Investor demand, the great wealth transfer, and strategies for ESG investing. *Journal of Financial Service Professionals*, 74(3).

Windasari, N. A., Kusumawati, N., Larasati, N., & Amelia, R. P. (2022). Digital-only banking experience: Insights from Gen Y and Gen Z. *Journal of Innovation & Knowledge*, 7(2), 100170. https://doi.org/10.1016/j.jik.2022.100170

Yang, M., Mamun, A. A., Mohiuddin, M., Nawi, N. C., & Zainol, N. R. (2021). Cashless transactions: A study on intention and adoption of e-wallets. *Sustainability*, 13(2), 831. https://doi.org/10.3390/su13020831

Ye, J. (2022, February 4). China's fully cashless society a step closer after two private banks end services for banknotes and coins. *South China Morning Post.* https://www.scmp.com/tech/tech-trends/article/3165809/chinas-fully-cashless-society-step-closer-after-two-private-banks

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2012). *Business Research Methods* (9th ed.). Cengage Learning.