

# **A Comparative Study on the Adoption of Cashless Payment: Malaysia and China**

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## **Abstract**

This study examines the adoption of cashless payment systems in society, focusing on a comparative analysis between China and Malaysia. Many developed countries have effectively integrated cashless payment systems into their societies, thereby establishing cashless payments as a prominent alternative to traditional methods such as cash. Nevertheless, it is important to emphasise that the implementation of cashless payment systems will vary across nations owing to a multitude of distinct factors. We have proposed various determinants that potentially influence the acceptance and utilisation of cashless payment methods. These determinants encompass convenience, safety and security, as well as the cultivation of good spending habits. Based on our analysis of the data obtained from questionnaire surveys, it has been ascertained that in Malaysia, the adoption of cashless payments is positively influenced by factors such as convenience, lowered risks, and enhanced security associated with such transactions. The adoption of cashless payments in China is expected to be enhanced by several factors, including convenience, reduced risks and enhanced security, as well as the cultivation of positive spending habits. This comparative study has revealed discernible variations in the adoption of cashless payment systems across the two distinct countries.

**Keywords:** Cashless Payment, Consumer, Consumer Behaviour

**Introduction**

As the information technology keep advancing in a remarkable rate, the innovation of the technology had gradually adopted by the economic sector and not limited to the business transactions and money remittance between individuals or organizations. Cashless payment had become the trend in the business sector where most of the firm and business owners had started in promoting the trading of goods and services through the electronic devices where the physical cash is not needed. Cashless payment can be denoted as the transferring of values in exchanging of the goods and services without using the traditional cash transactions (Tee & Ong, 2016). According to Armeiy et al (2014), cashless payment had greatly helped in reducing the occurrence of theft, robbery, and any sort of cash related crimes.

The adoption of cashless payment systems has been observed in various countries, including Australia, Finland, South Korea, and the United Kingdom, following advancements in technology. Telecommunication and internet are both the fundamentals medium in providing an efficient cashless payment transaction (Ng et al, 2021). The extent to which cashless payment is effectively utilised is heavily reliant upon the retail environment, particularly in settings where prominent retailers such as shopping malls, supermarkets, and restaurants have actively embraced cashless payment methods, such as credit and debit cards. Hence, the smaller scale of retailers and service providers still heavily relied on transacting through physical cash due to the smaller purchase amounts (Ng et al, 2021).

**Problem Statement**

The widespread adoption of technology has led to the increasing prevalence of cashless payment systems in various industries, particularly in developing countries. This trend has garnered significant attention globally. The most prominent payment methods that have eliminated the need for physical currency include PayPal, Apple's digital wallet, and Near Field Communication (NFC) payments facilitated by smartphones and electronic cards. Most of the businesses and retailers had started to implement the cashless payment methods which most of them had gone completely cashless where it can still cause unwanted problem to those who are yet to adopt the cashless payment mode. In fact, there are still certain retailers and business which have not implementing the cashless payment due to certain issues presenting on the consumers behaviour and technological difficulties. The issues revolving on the adoption of cashless payment mostly includes on the poor network connectivity, security, illiteracy and also the poor awareness of utilizing digital payment (Mohd & Pal, 2020). Where most of the problem stated could heavily influence the consumers behaviour in going cashless. As the most notable problem would be the risk of identity theft and online fraud. The adoption of cashless payment methods has led to a significant portion of funds being stored in digital wallets. However, the poor management of security measures within these systems can potentially expose sensitive user data (Ramya et al., 2017). This vulnerability may result in users unknowingly becoming involved in illegal activities.

**Objectives**

This paper aims to examine the consumer adoption of cashless payment in Malaysia and China. The study will focus on the following specific objectives:

- To determine on whether the adoption of cashless payment methods will increase the convenience that is given to consumers.

- To determine on whether the adoption of cashless payment methods will effectively lower the risks and improving safety and security for consumers.
- To determine on whether the adoption of cashless payment methods will instil a good spending habit for consumers.

### **Literature Review**

The Theory of Planned Behaviour (TPB) is a theory developed by Icek Ajzen that aims to accurately assess the factors that can influence changes in behaviour. It has a well-established track record in its application to the prediction of physical activity and sport participation. This theoretical framework is now being employed in the context of investigating the adoption of cashless payment systems within societies. According to Conner (2020), the behavioural intention that deciding on the individual's motivation to allow the changing of decision making and thinking towards the target behaviour. As the behavioural intention would be one of the key determinants for the individuals to undergo self-induced changed behaviours along certain external influence. In implementing TPB, there is three factors deciding on how the behaviour would change which including the behavioural, normative and control beliefs (Kan & Fabrigar, 2017). The most common behavioural beliefs take on the consideration of the outcomes when due to the change of behaviours that can either be negative or positives. Normative beliefs explained on the peer pressure where control beliefs provide a behavioural control which can impact on the performance. As the combination of all the beliefs along with the intention of the users results in the behavioural change.

### **Cashless Payment**

Due to the rapid development of information technology and technological innovation, it had started to promote a new norm which known as the cashless societies. In brief, cashless societies had been heavily depending on the concept of cashless payment which can be defined as the financial transactions of the trading and commerce of goods and services to be done without the use of physical cash. Where the use of digital currencies or electronic cards and wallet are the most common methods to be used in the cashless payment (Rahman et al, 2020). According to the World Payments Report (2020), there has been a significant increase in global cashless transactions, with a growth rate of approximately 14% observed between 2018 and 2019. This growth rate is the highest recorded in recent decades. Concurrently, the utilisation of cheques as a cashless payment option has experienced a decline of 13.4%. In contrast, the use of debit cards has witnessed a notable surge over the past decade when compared to the usage of credit cards.

However, the cashless society does not denote on the shortage of cash in the country but to promote on the use of cashless payment to produce a new culture where individuals who manage their financial transaction digitally without the use of physical cash (Ramya et al, 2017). Taken Malaysia as the case study, they have been actively promoting on the cashless societies which mostly seen as a function of policy direction, but also contributes to the demand requiring on the technology used in financial transaction mostly in certain market segments. The bank Negara Malaysia (BNM) had also launched the Financial Sector Blueprint in hope of providing any necessary policy initiatives to increase the adoption of cashless transactions in Malaysia (Taasim & Yusoff, 2018). The transition towards cashless societies poses a significant challenge, particularly in Malaysia, as it heavily relies on the acceptance and adoption of cashless payment systems by Malaysian consumers. This challenge stems

from the uncertainties associated with using such systems, which entail potential security risks (Rahman et al., 2020).

When comes to China, cashless payment had almost fully adopted for the whole country where the consumers had started using the mobile phone payment in almost each of their transactions ranging from small amount of value at street vendor to the bigger business involving of firms and organizations. Cashless payment methods, such as debit and credit cards, have become increasingly prevalent in China. However, it is worth noting that cash is still utilised in certain transactions by a significant portion of the population. Nevertheless, the prevalence of mobile phone payments has significantly supplanted conventional payment methods, encompassing both cash and cashless transactions. Remarkably, mobile phone transactions have surpassed an astonishing sum of USD 8.6 trillion, as reported by Kennedy et al. in 2020.

### ***Convenience***

When opting for cashless payment, the consumers will be mainly taking account of the fast and convenient of making payments and transactions at anytime and anywhere with the use of mobile phone payment (Humbani & Wiese, 2018). Most of the consumer had assumed the convenient that is brought by the advancement of technologies as it helps to mitigate on the difficulties in performing common task at a daily basis. Data according to Podile & Rajesh (2017) had shown that majority of the consumer adopting cashless payment had brought convenient in allowing them to have a smoother transaction. However, the behavioural of consumer had become the major aspect in determining the growth of cashless payment in the societies. As human are preferably utilized on any technology that provides a faster and convenient services, the use of wireless technologies in undergoing any sort of transactions came into the part. As the e-wallet that can be virtually brought to anywhere in the form of mobile devices, it had enhanced the convenient of consumer in making purchase and transaction from anywhere, anytime (Ishak, 2020). As according to Gichuki & Mulu-Mutuku (2018), there is total of 94.7 % of the micro-entrepreneurs had been adopting the mobile phone payment where 46.4 % of that uses the cashless payment in obtaining services. Hence, the convenient of cashless payment had potentially increasing the opportunities for even the smaller scale of business to increase their transactions efficiency.

### ***Safety and Security***

When it comes to cashless payment, both the convenience and security of the system are equally significant, particularly in the context of e-card payments. E-cards can be simply known as the debit and credit cards, which is the most common mode of cashless payment that had been used in centuries. However, the use of E-cards is usually protected with an integrated chip for a better safety. In most of the developed country, cashless transactions had almost made up to 50 % where total of 85 % transactions in a global scale still yet to adopt the cashless payment due to the risks and lack of awareness. The role of safety and security is crucial in promoting the adoption of cashless payment methods. There are several risks associated with security, including hacking, stolen PINs, and card duplication. These risks provide consumers with sufficient reasons to reconsider the adoption of cashless payment methods (Jain & Jain, 2017).

When considering mobile phone payment, cybersecurity emerges as a crucial determinant for consumers when selecting cashless payment methods. The mobile payment system is susceptible to risks related to safety and security, including the potential threats

posed by hackers and malware. These risks can leave the system vulnerable, potentially resulting in financial losses and devaluation of funds stored in digital wallets. As the low usage rate of the mobile payment was garnered by the fact that cybersecurity is yet to be mature. The risk of privacy infringement had also held back on the adoption of cashless payment as it mostly happened due to the leakage of personal information that exposing the user in an alleageable cybercrime. As it is also uncertain that the payment system provider may exploit on the user's information and selling their personal data such as the personal identification, credit card information and other financial data for scamming and phishing purpose (Baganzi & Lau, 2017). Furthermore, the potential for unregulated transactions and the vulnerability of financial data are contingent upon the effectiveness of cybersecurity measures. It is imperative to establish adequate levels of safety and security in order to instill user confidence and promote the widespread adoption (Chang et al., 2021) of cashless payment systems.

### ***Spending Habits***

Cashless payments are known as one of effective tools when comes to convenient transactions of money, but it had also heavily affected on the future economic growth and spending habits of the consumers (Zandi et al, 2016). One of the pieces of evidence with the effect of cashless payments have on the spending habits of consumer is the overspending. As the cashless payment getting more and more convenient, it had caused a spending trap for the consumers where they will be unaware of the money that had been spend on purchases. As the use of cash is still considered to help for people who find it difficult to control their spending (Ramya et al, 2017). Although the negative effect of cashless payments has on the spending habits are still an issue, the responsible of the consumer are also important especially in the financial management. As taken the case study on the students, it shows that the poor money management due to the lack of financial education can pose a serious threat when associating with the convenience of cashless payment. As almost more than a third of the users falling in the category of students had various unexpected expenses without the guidance of the proper financial management (James, 2017). However, the spending habits may continue worsen along with the adoption of cashless payment that may cause the risk of impulse spending.

However, there is still measurements provided by the cashless payment system in controlling the spending habits of the consumers where Maybank is taken as the example. Maybank had been providing cashless payment services with the use of credit and debit cards, where soon evolving into the use of Maybank2u mobile applications and QR Pay. According to Kee et al (2021), there is majority of the users who agreed on the cashless payment services provided by Maybank had helped them with the spending habits as all the money transactions are transparent for them through the applications.

### ***Consumer Behaviour***

Numerous studies has been conducted on the theories of consumer behaviour, which are recognised as pivotal factors within various business industries. The examination of consumer behaviours is imperative in order to ascertain the impact of cashless payment systems on behavioural patterns pertaining to the adoption of alternative payment methods. Due to the increasing of cashless payment systems, the in-depth research is required to study on the knowledge in the field of payments and the impacts on the consumer financial behaviour (Świecka et al, 2021). As stated previously, the consumer purchasing behaviours are closely

follow by the effect of the adoption of the cashless payment. Considering the advancement of technology, the technological features along with the social influences had heavily influenced on the decision of adopting on the mobile phone payments. Besides, the willingness of the users in adopting new technology providing the usefulness and ease-of-use for the technology in the daily basis (Sunarjo et al, 2021).

With the recent outbreak of Covid-19 pandemic, the changed payment behaviour had widely prompted the user to opt for the cashless payment due to the belief of possible transmitting of virus with the physical banknotes (Wisniewski et al, 2021). One of the consumer behaviours including the motivation that could promote on the change of payment option into cashless mode. As the business and retailers could provide additional promotional offers or discounts for the cashless payment mode. The adoption of cashless payment methods by consumers can be influenced by their desire to share their experiences (Nguyen, 2018) with family members, friends, and colleagues.

## **METHOD**

### ***Research Design***

In this study, a quantitative approach was employed as it was deemed more appropriate for the research. This decision was based on the fact that the data collected in this study are in a quantifiable state, which enables a focus on measurable variables.

### ***Data Collection***

Survey questionnaire was used in the online format where the questionnaires can be easily distributed to the target population. In the questionnaire, it was divided into three part including A, B and C. Section A are solely focusing on collecting the personal information to ideally distributing the demographic data and providing that the data collected which is not suitable may be excluded from the survey poll. Section B is focusing on collecting data which emphasizing on the independent variables such that the idea of adoption of cashless payment would clarify for each of the respondents. The data collection method for Section B involved the use of a multiple-choice question format, specifically employing a 5-point Likert scale. This scale allowed respondents to indicate their level of agreement or disagreement with the variables presented. Section C employed the identical design utilised in Section B. the focus of Section C was on the dependent variables, with the aim of establishing the relationship between each of the aforementioned variables.

### ***Population***

The target demographic consisted of consumers in Malaysia and China, aged between 18 and 50. This age range was selected based on the financial capacity of individuals within this group, as they possess the means to participate in the exchange of goods, services, and monetary transactions. Additionally, the data collection was restricted to a sample size of 200 respondents, thereby enabling the utilisation of diverse data analysis tools for the examination of the collected data.

This sample consisted of 100 participants from Malaysia and an additional 100 participants from China. By including respondents from two distinct populations, our research will facilitate the execution of a comparative study. Individuals residing in China can be conveniently reached through the utilisation of internet and social media platforms. The utilisation of survey questionnaires enables researchers to enhance the precision of data obtained on specific respondents' attributes by refining the collected data.

### Result And Discussion

The descriptive analysis was conducted on the data obtained from participants' responses pertaining to various demographic variables gathered in the initial section of the questionnaire survey. The questionnaire was distributed to respondents in both China and Malaysia. Through our descriptive summary, we will analyse and interpret the variations in demographic characteristics between the respondents from China and Malaysia.

**Table 1a. Age of Respondents (Malaysia)**

	Frequency	Percent	Cumulative Percent
Below 18	6	6.0	6.0
18 – 25	39	39.0	45.0
26 – 35	19	19.0	64.0
36 – 50	30	30.0	94.0
Above 50	6	6.0	100.0
TOTAL	100	100.0	100.0

**Table 1b. Age of Respondents (China)**

	Frequency	Percent	Cumulative Percent
Below 18	11	11.0	11.0
18 – 25	33	33.0	44.0
26 – 35	20	20.0	64.0
36 – 50	20	20.0	84.0
Above 50	66	16.0	100.0
TOTAL	100	100.0	100.0

From the table 1a above, it shows the frequency distribution table of the age the respondents from Malaysia that have taken part in our questionnaire survey, while the table 1b above shows the frequency distribution table of the age of the respondents from China that have taken part in our questionnaire survey. For the respondents from Malaysia, we can observe that 6 respondents have indicated that they are below 18 accounting for 6% of the total respondents, 39 respondents have indicated that they are between 18 and 25 accounting for 39% of the total respondents, 19 respondents have indicated that they are between 26 and 35 accounting for 19% of the total respondents, 30 respondents have indicated that they are between 36 and 50 accounting for 30% of the total respondents, 6 respondents have indicated that they are above 50 accounting for 6% of the total respondents. For the respondents from China, we can observe that 11 respondents have indicated that they are below 18 accounting for 11% of the total respondents, 33 respondents have indicated that

they are between 18 and 25 accounting for 33% of the total respondents, 20 respondents have indicated that they are between 26 and 35 accounting for 20% of the total respondents, 20 respondents have indicated that they are between 36 and 50 accounting for 20% of the total respondents, 16 respondents have indicated that they are above 50 accounting for 16% of the total respondents. The results are indicative that in both Malaysia and China, most respondents were from the 18 to 25 age group, while the smallest number of respondents were in the above 50 age group for Malaysian respondents, and the smallest number of respondents were in the below 18 age group, indicating that the average age of respondents is older for Chinese respondents.

**Table 2a. Preferred Cashless Payment Provider (Malaysia)**

	Frequency	Percent	Cumulative Percent
Touch n' Go eWallet	55	55.0	55.0
ShopeePay	23	23.0	78.0
Boost	9	9.0	87.0
GrabPay	11	11.0	98.0
Other	2	2.0	100.0
TOTAL	100	100.0	100.0

**Table 2b. Preferred Cashless Payment Provider (Malaysia)**

	Frequency	Percent	Cumulative Percent
Alipay	82	82.0	82.0
Wechat Pay	17	17.0	99.0
Other	1	1.0	100.0
TOTAL	100	100.0	100.0

From the table 1a above, it shows the frequency distribution table of the preferred cashless payment provider of the respondents from Malaysia that have taken part in our questionnaire survey, while the table 1b above shows the frequency distribution table of the preferred cashless payment provider of the respondents from China that have taken part in our questionnaire survey. For the respondents from Malaysia, we can observe that 55 respondents have indicated that Touch n' Go eWallet is their preferred cashless payment provider accounting for 55% of the total respondents, 23 respondents have indicated that ShopeePay is their preferred cashless payment provider accounting for 23% of the total respondents, 9 respondents have indicated that Boost is their preferred cashless payment provider accounting for 9% of the total respondents, 11 respondents have indicated that GrabPay is their preferred cashless payment provider accounting for 11% of the total respondents, 2 respondents have indicated that their preferred cashless payment provider is not listed above accounting for 2% of the total respondents. For the respondents from China, we can observe that 82 respondents have indicated that Alipay is their preferred cashless payment provider accounting for 82% of the total respondents, while 17 respondents have



indicated that Wechatpay is their preferred cashless payment provider accounting for 17% of the total respondents, and 1 respondent has indicated that their preferred cashless payment provider is not listed accounting for 1% of the total respondents, The results are indicative that in Malaysia, the most preferred cashless payment provider is ShopeePay, while in China the most preferred cashless payment provider is Alipay.

**Table 3a. Preference of Payment Method (Malaysia)**

	Frequency	Percent	Cumulative Percent
Cashless Payment	88	88.0	88.0
Traditional Payment	12	12.0	12.0
TOTAL	100	100.0	100.0

**Table 3b. Preference of Payment Method (China)**

	Frequency	Percent	Cumulative Percent
Cashless Payment	99	99.0	99.0
Traditional Payment	1	1.0	100.0
TOTAL	100	100.0	100.0

From the table 3a above, it shows the frequency distribution table of the preferred payment method of the respondents from Malaysia that have taken part in our questionnaire survey, while the table 3b above shows the frequency distribution table of the preferred payment method of the respondents from China that have taken part in our questionnaire survey. For the respondents from Malaysia, we can observe that 88 respondents have indicated that they prefer cashless payment methods, which has accounted for 88% of the Malaysian respondents, and 12 respondents have indicated that they prefer traditional payment methods such as cash, which has accounted for 12% of the Malaysian respondents. For the respondents from China, we can observe that 99 respondents have indicated that they prefer cashless payment methods, accounting for 99% of the total number of respondents from China, while 1 respondent has indicated that they prefer cashless traditional payment methods, accounting for 1% of the total number of respondents. From the results, we observe that majority of the respondents from both Malaysia and China prefer cashless payment methods over traditional payment methods such as cash, but China shows a higher dominance of cashless payment method preference with only one respondent preferring traditional payment methods such as cash.

### ***Inferential Analysis***

The inferential analysis was conducted on the data collected from the second section onwards in the questionnaire survey.

**Table 4a. Coefficients<sup>a</sup> (Malaysia)**

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Constant	.786	.134		5.867	.000
Convenience	.439	.200	.523	2.195	.031
Security	.478	.157	.629	3.050	.003
Spending Habits	-.194	.104	-.228	-1.869	.066

<sup>a</sup> Dependent Variable: Cashless Adoption

**Table 4b. Coefficients (China)**

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
Constant	.790	.138		5.746	.000
Convenience	.494	.200	.588	2.473	.016
Security	.442	.160	.582	2.755	.007
Spending Habits	-.211	.105	-.248	-2.014	.048

<sup>a</sup> Dependent Variable: Cashless Adoption

The results obtained from our inferential analysis were derived through the utilisation of linear regression analysis on the data collected from both our respondent groups in Malaysia and China. The results obtained were discussed as below:

### **Convenience**

The use of cashless payment methods and the convenience offered to consumers demonstrate a significant correlation, which was less than 0.05. This indicates a statistically significant relationship between the adoption of cashless payment methods and the convenience provided to consumers. It can be concluded that the adoption of cashless payment methods does indeed offer convenience to consumers. Based on the evidence presented, it can be noticed that the adoption of cashless payment methods in both countries facilitates enhanced convenience for users in their daily routines (Podile & Rajesh, 2017; Ishak, 2020). Upon comparing the obtained results for the respondent groups from Malaysia and China, it was observed that there exists a variation in the significance values. Notably, the variable of convenience exhibited a lower significance value among the Chinese respondent group. The observed decrease in significance value among the Chinese respondent group suggests that Chinese consumers have experienced a greater level of convenience with the adoption of cashless payment methods in comparison to their Malaysian consumers.

### **Safety and Security**

There is a significant relationship between cashless payment method adoption and lower risks with higher security provided to consumers in both Malaysia and China. The statistical significance of the obtained significance value, which was less than 0.05, indicates a significant relationship between the variables. Based on our analysis, it can be inferred that the adoption of cashless payment methods does offer consumers reduced risks and enhanced security. Cashless payment adoption in both countries offers users the advantage of reduced risks and enhanced security in their daily transactions. Following the results obtained, we observed that there is a difference between the significance values, and that there is a lower

significance value for the variable of lower risks and higher security with the Malaysian respondent group. This lower significance value with the Malaysian respondent group indicates that Malaysian consumers have gained more lower risks and higher security with adoption of cashless payment methods as compared to Chinese consumers.

### **Spending Habits**

The inferential analysis conducted in this study demonstrates a statistically significant relationship between the adoption of cashless payment methods and good spending habits. Nevertheless, this observation does not hold true for the respondent group from Malaysia, as the obtained significance value for this variable exceeds 0.05. The adoption of cashless payment methods has been found to cultivate positive spending habits among consumers in China, whereas the impact on consumers in Malaysia appears to be less significant (Ramya et al, 2017). Upon comparing the obtained results for the respondent groups from Malaysia and China, it is evident that there exists a variation in the significance values. Notably, the variable of convenience exhibits a lower significance value within the Chinese respondent group. The observed decrease in significance value among the Chinese respondent group suggests that Chinese consumers exhibit stronger adherence to prudent spending habits through the utilisation of cashless payment methods.

### **CONCLUSION**

It has been determined that the adoption of cashless payment methods has had an impact on the convenience, risks and security, as well as the development of good spending habits among consumers. However, it is noteworthy that the effects of this adoption have varied between consumers in Malaysia and China. It is evident that the adoption of cashless payment methods will persistently expand in the foreseeable future. Our research study and its outcomes have significantly contributed to the body of knowledge, thereby facilitating the advancement of cashless payment adoption. Our findings reveal that cultural disparities between the countries have influenced the adoption of cashless payments and consumer behaviour. The potential limitation on our research study lies in the potential for Chinese respondents to have a limited understanding of the question context due to English not being their primary language. Consequently, this linguistic barrier may introduce a bias that could compromise the accuracy of the collected data.

This study indicates the impact of cashless payment adoption on consumer convenience, risks and security, and spending habits. It reveals that the effects of this adoption vary between consumers in Malaysia and China. It is evident that the adoption of cashless payment methods will persistently expand in the foreseeable future. This study and its findings have made a valuable contribution by providing information that will facilitate the advancement of cashless payment adoption.

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