



From Cash to Cashless: The Impact of Cashless Payment Adoption on Student Spending Behavior in Malaysia

Annie Wong Pooi Hang¹, Padmalini Singh², Lok Yee Huei³, Yoshanaa A/P Elang Kesvaran^{1*} , Yu Dajun¹, Yu Shengpu¹, Yu Zixin¹, Daisy Mui Hung Kee¹ 

¹Universiti Sains Malaysia, Jalan Sg Dua, 11800 Minden, Pulau Pinang, Malaysia

²BNM Institute of Technology, 12th Main Road, Bangalore 560070, India

³Universiti Utara Malaysia, 06010 UUM Sintok, Kedah, Malaysia

Corresponding Email: yoshanaa1602@student.usm.my

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Modern innovation is expanding rapidly in Malaysia in line with current developments and practices. Consequently, cashless payment methods are increasingly preferred by the community for daily transactions. Previous observations indicate that students tend to purchase more non-essential items when using cashless payment methods. This behavior occurs because payments made through cards or mobile devices are perceived as more effortless compared to traditional cash transactions. Therefore, this study examines the impact of cashless payment adoption on the spending behavior of university students in Malaysia. Specifically, the study aims to analyze how convenience, consumer habits, social influence, and perceived security influence students' budgeting practices, financial discipline, and impulsive spending behavior. Data were collected from 153 undergraduate students enrolled in public and private universities through an online survey administered via Google Forms. Data analysis was conducted using SPSS, including descriptive analysis, correlation analysis, and regression analysis. The findings provide important insights for educators and fintech companies in developing financial education programs tailored to the cashless economy.

Keywords: Budgeting; Cashless Payments; Digital Wallets; Financial Discipline; Financial Literacy; Impulsive Spending; University Students

INTRODUCTION

Malaysia's financial ecosystem is undergoing a profound transformation driven by the rapid adoption of financial technology and cashless payment systems. According to the World Bank's Global Findex (2021), approximately 79% of Malaysian adults engaged in electronic payments during the COVID-19 pandemic, reflecting a substantial shift toward digital finance ([Digital News Asia, 2023](#)). In addition, Malaysia ranked third globally in real-time payment growth, recording an impressive compound annual growth rate (CAGR) of 83.9%, as reported by ACI Worldwide and cited in [Digital News Asia \(2021\)](#).

These developments underscore the increasing centrality of digital transactions in everyday financial activities. Within this evolving landscape, university students represent a particularly relevant demographic for investigation. As digital natives, they are deeply immersed in mobile technology and online platforms, frequently relying on e-wallets and other digital payment tools for daily transactions. While managing limited financial resources such as allowances or part-time income, their spending decisions are often shaped by peer influence, online marketing, and social media trends. [Salloum et al. \(2019\)](#) emphasized that e-payment systems enable individuals and organizations to conduct transactions without cash, making them especially impactful in higher education environments where digital payments have become standard practice. Recent studies further indicate that the adoption of e-wallets and other cashless payment methods surged during the pandemic, with increased usage reported across various consumer groups in Malaysia, including university students ([Kee et al., 2021](#); [Kee et al., 2022a](#)). Beyond offering health safety and convenience, these technologies have been shown to influence behavioral patterns such as impulse buying, spending frequency, and perceived financial control ([Edeh et al., 2021](#); [Kee et al., 2022b](#)).

Despite the growing prevalence of cashless transactions, limited empirical research has examined their impact on students' financial behavior, particularly in the Malaysian context. This study seeks to address this gap by exploring the influence of cashless payment adoption on the spending behavior of university students in Malaysia. It considers the possibility that while digital payment tools enhance convenience and accessibility, they may also reshape consumption patterns and psychological responses to spending. As noted by [Audry & Navila \(2023\)](#), the increasing reliance on online transactions within universities necessitates deeper insights into how these platforms affect students' financial habits.

This research makes two key contributions to the existing literature. First, it focuses on Malaysian university students, an under-researched yet highly relevant group that is both technologically adept and financially vulnerable. Second, it extends beyond conventional technology adoption frameworks by examining the behavioral consequences associated with cashless transactions. In particular, the study investigates how frequent and seamless access to digital payment systems may encourage habitual or impulsive spending behaviors, thereby influencing students' financial well-being ([Gao et al., 2010](#)). To capture these behavioral dynamics, the study incorporates several critical independent variables, including consumer habits, cashless payment usage, social influence, convenience, and perceived security. Consumer habits represent established consumption patterns that may predispose students to impulsive purchases. [Aji & Adawiyah \(2022\)](#), suggest that digital platforms such as e-wallets enhance shopping experiences and facilitate unplanned buying, particularly among younger consumers. The speed and ease of cashless payments may further reduce the psychological barriers to spending, while social pressures stemming from peers and social media trends can intensify consumption behavior ([Do et al., 2021](#)). Moreover, the convenience of electronic payment systems often promotes repeated or unplanned purchases, whereas

perceptions of system security shape users' trust and willingness to engage in digital transactions. By examining the interaction among these factors, this study seeks to provide a comprehensive understanding of how digital financial technologies influence students' spending behavior.

Overall, this research aims to examine the extent of cashless payment adoption among Malaysian university students and to evaluate how such systems influence their spending behavior. By addressing these objectives, the study offers original, context-specific insights that contribute to scholarly discussions in consumer behavior and financial technology, while also providing practical implications for educators, fintech developers, and policymakers seeking to promote responsible financial practices among young consumers.

LITERATURE REVIEW

The development of electronic payment systems has the potential to alter the spending behavior of Malaysian university students. The convenience offered by cashless payments may dilute consumers' perception of spending, thereby encouraging more impulsive purchasing behavior. Statistical analyses have shown that the average monthly expenditure of university students who use e-wallets is higher than that of students who rely on cash payments. These findings suggest that cashless payment methods increase impulsive spending by abstracting the payment process. From the perspective of behavioral economics, electronic payments transform money into digital symbols, reducing the psychological "pain of paying." In addition, many merchants implement promotional strategies specifically targeting cashless payment users, further increasing the likelihood of impulsive spending.

Consumer Habits

Consumers' daily spending habits play a crucial role in determining their acceptance of cashless payment systems. As digital natives, Malaysian university students spend more than six hours per day on their mobile phones, and approximately 62% of their daily expenditures are conducted through online platforms (Kutty et al., 2022). As a result, cashless payments can be viewed as a natural extension of their existing consumption behavior (Schramm et al., 2010). Previous research has demonstrated that individuals with stronger digitally oriented consumption patterns are more inclined to adopt non-cash payment methods. Therefore, understanding the spending habits of university students is essential for explaining their attitudes toward the adoption of cashless payment systems.

H1: Consumer habits are positively related to spending habits using cashless payments.

Cashless Payment

Although cashless payment adoption is commonly treated as a dependent variable, prior studies indicate that it may also function as an antecedent variable in certain contexts. Specifically, familiarity with a payment platform can enhance users' trust in transaction security, which in turn increases their willingness to adopt and continue using cashless payment systems (Abdul-Halim et al., 2021). In addition, research has shown that trust, perceived security, and system reliability are critical determinants of digital payment adoption, particularly among young and digitally active consumers (Rahman et al., 2020).

Furthermore, the localization of payment platforms plays an important role in shaping adoption intentions. Empirical evidence suggests that locally embedded payment platforms tend to gain higher trust due to cultural alignment, language support, and institutional endorsement (Gan et al., 2023; Ishak et al., 2024). For instance, international

platforms such as PayPal exhibit lower trust levels among Malaysian university students compared to government-endorsed local platforms that provide broader merchant coverage and full support for the Malay language (Digital News Asia, 2021). These findings challenge the traditional Technology Acceptance Model (TAM), particularly its emphasis on perceived usefulness as the primary determinant of adoption. Instead, cultural embeddedness, institutional trust, and perceived security may exert a stronger influence on adoption behavior than technological sophistication alone (Ju et al., 2023).

H2: Cashless payment usage is positively related to spending habits using cashless payments.

Social Influence

Previous studies have demonstrated that external social groups, including friends, family members, and online communities, significantly influence the payment behavior of university students (Lu & Kosim, 2023). Using the Unified Theory of Acceptance and Use of Technology (UTAUT), researchers have identified several underlying factors affecting adoption, including performance expectancy, social influence, perceived technological security, perceived ease of use, and hedonic motivation. Empirical findings suggest that social influence is a primary driver of cashless payment adoption, with students being more strongly influenced by their social environment than by hedonic motivations. For instance, parents often indirectly shape students' payment preferences by transferring living expenses electronically. However, traditional models tend to overlook the growing role of social media. The #CashlessLife challenge initiated on TikTok, which showcased e-wallet usage through short videos, resulted in a 40% increase in Boost e-wallet downloads within one week. This phenomenon indicates that social influence has expanded beyond close relationships to include weaker social ties, highlighting the need to update existing theoretical frameworks.

H3: Social influence is positively related to spending habits using cashless payments.

Convenience

The importance of convenience as a determinant of e-wallet adoption has been widely discussed in the literature, particularly from value-based perspectives that emphasize consumers' evaluation of perceived benefits relative to effort and time costs. Previous studies indicate that convenience in terms of speed, ease of use, and integration across multiple payment scenarios significantly influences users' willingness to adopt cashless payment systems, especially among younger and digitally native consumers (Ju et al., 2023; Gan et al., 2023). Empirical evidence from Malaysia further suggests that the COVID-19 pandemic accelerated e-wallet adoption due to movement restrictions and increased reliance on digital transactions, reinforcing the role of convenience in daily payment activities (Kee et al., 2021; Kee et al., 2022a). Although safety considerations were an initial motivation during the pandemic, these factors also reflect users' preference for efficient and seamless payment processes (Lu & Kosim, 2023). Studies involving Malaysian university students show that cashless payment convenience is associated with time efficiency and functional integration, which in turn influences their preference for using digital payment platforms in routine transactions (Ishak et al., 2024).

H4: Convenience is positively related to spending habits using cashless payments.

Safety and Security

Although ease of use and practicality are frequently identified as key factors influencing cashless payment adoption, safety and security concerns remain highly significant. While younger users are generally more receptive to adopting new technologies, prior studies indicate that trust, perceived security, and system reliability play a critical role in

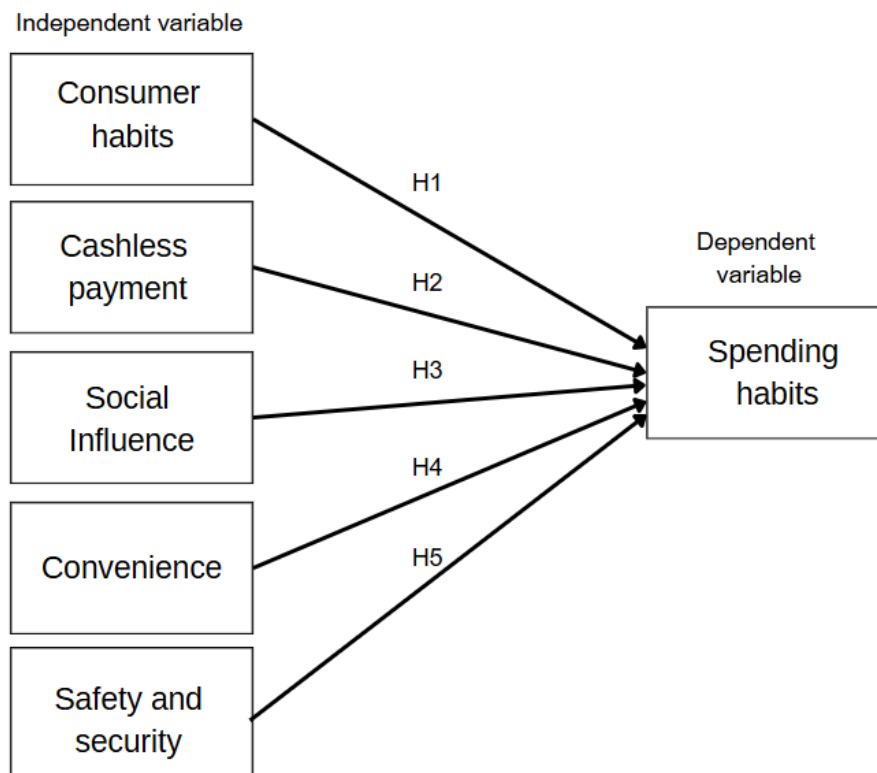
shaping their continued usage intentions (Abdul-Halim et al., 2021). In the Malaysian context, institutional support and government involvement have been shown to strengthen public confidence in localized cashless payment platforms, thereby enhancing adoption and usage levels (Rahman et al., 2020). Empirical evidence further suggests that cashless payment systems endorsed by trusted financial institutions are more likely to be perceived as secure, particularly when supported by advanced authentication and transaction monitoring mechanisms (Kee et al., 2021). These security-enhancing features significantly influence users' trust and willingness to engage in cashless transactions, ultimately affecting their spending behavior and long-term adoption decisions.

H5: Safety and security are positively related to spending habits using cashless payments.

Research Framework

The research framework of this study is illustrated in Figure 1. Consumer habits, cashless payment usage, social influence, convenience, and safety and security are treated as independent variables, while spending habits constitute the dependent variable.

Figure 1. Research Framework



RESEARCH METHOD

Sample and Procedure

This study examines the impact of cashless payment usage on the spending behavior of university students using a quantitative research approach. A quantitative approach is considered appropriate for this study as it enables the collection of numerical data through a structured survey and facilitates detailed statistical analysis to identify patterns and relationships among the research variables. This approach supports the objective

evaluation of both independent and dependent variables by identifying statistical patterns, correlations, and trends.

The target population consisted of university students aged between 19 and 26 years, as individuals within this age group are generally more familiar with cashless payment systems such as e-wallets, online banking, and debit or credit card transactions. A random sampling technique was employed, resulting in a total of 153 respondents to ensure diversity in terms of age, gender, monthly allowance, and nationality. Data were analyzed using SPSS software to generate descriptive statistics, regression analysis, and demographic profiles. This analytical approach enabled a comprehensive examination of the collected data and facilitated the identification of patterns, relationships among variables, and overall trends related to the use of cashless payment systems among university students.

Measures

A structured questionnaire consisting of seven sections was administered to measure the variables used in this study. Section A focused on collecting respondents' demographic information to ensure an appropriate distribution of background characteristics. Sections B to F measured the independent and dependent variables using a multiple-choice format based on a five-point Likert scale, where 1 indicated "strongly disagree" and 5 indicated "strongly agree." This scale allowed respondents to express the extent of their agreement or disagreement with each statement.

Each construct was measured using six items to maintain balance and consistency across variables. The dependent variable, spending habits, was measured using six items. Four items, namely "My spending habits have changed since I started using cashless payments," "I budget more consciously now due to digital records," "I check my spending summary regularly through apps," and "I have become more careful with my spending due to transaction tracking," were adapted from [Sapian and Ismail \(2021\)](#). Two additional items, "I tend to overspend when using cashless methods" and "On average, how much do you spend weekly using cashless payments?" were adapted from [Rafee et al. \(2022\)](#).

Cashless payment usage was measured using seven items. Four items, including "Are you currently using cashless payment methods?", "Which cashless payment platforms do you use?", "On what occasions do you use cashless payments?", and "How often do you use cashless payment applications in a week?", were adapted from [Rafee et al. \(2022\)](#) to assess the level of cashless payment usage among university students. The reported Cronbach's alpha value for this construct was 0.775.

Consumer habits were measured using six items that evaluated students' spending tendencies when using cashless payment methods. Three items, namely "I tend to spend more when using cashless payments," "I often spend without thinking when using e-wallets or cards," and "I make more impulse purchases using cashless payments," were adapted from [Rafee et al. \(2022\)](#). Two additional items, "I feel more in control of my spending when using cashless payments" and "I set monthly limits for myself when using digital payments," were adapted from [Sapian and Ismail \(2021\)](#). This construct reported a Cronbach's alpha value of 0.865.

Safety and security were measured using eight items to assess users' trust, adoption, and behavioral intentions when engaging in digital payment systems. Six items were adapted from [Sapian and Ismail \(2021\)](#), including "I feel safe when making cashless transactions," "I worry about technical issues or glitches during transactions," "I avoid using cashless payments on unknown or suspicious websites," "I read the terms and

conditions before making online transactions,” and “Have you ever experienced fraud or scams through cashless payments?”

Convenience was measured using eight items to evaluate students’ perceptions of ease, speed, and practicality in using digital payment methods. Four items, namely “I can make quicker transactions using cashless payment methods,” “I save time at checkout when using cashless payments,” “Managing payments through mobile apps is easier than using cash,” and “I find cashless payment options easy to learn and use,” were adapted from [Sapian and Ismail \(2021\)](#). This construct reported a Cronbach’s alpha value of 0.731.

Social influence was measured using six items to examine how social factors shape individuals’ decisions and behaviors related to cashless payment usage. Five items were adapted from [Sapian and Ismail \(2021\)](#), including “My friends influenced my decision to start using cashless payments,” “I began using cashless payments because people around me were using them,” “Most of my friends and family use cashless payments regularly,” “I chose my cashless payment platform based on peer recommendations,” and “My family encourages me to use cashless methods for my spending.”

RESULTS

Table 1. Summary of Respondents Demographic Information (N=153)

Response	Category	Frequency	Percentage (%)
Age	Below 20	18	11.84
	20–22	96	63.16
	23–25	32	21.05
	Above 25	6	3.95
Gender	Female	96	63.16
	Male	54	35.53
University Level	Certificate Level	1	0.66
	Diploma	14	9.21
	Bachelor Degree	120	78.95
	Masters Degree	16	10.53
	Phd	1	0.66
Student Status	International	22	14.47
	Local	130	85.53
Monthly Allowance / Income	Below RM 500	73	48.03
	RM501-RM1000	54	35.53
	RM1001-RM1500	12	7.90
	Above RM1500	13	8.55
On average, how much do you spend weekly using cashless payment?	Less than RM50	25	16.45
	RM 51 - RM 100	63	41.45
	RM101–RM200	37	24.34
	More than RM200	27	17.76

Based on the table above, the age distribution indicates that the majority of respondents are concentrated in the younger age group. Specifically, 63.16% of the participants are aged between 20 and 22 years, followed by 21.05% aged between 23 and 25 years. Participants under 20 years old account for 11.84%, while only 3.95% are above 25 years old. This distribution suggests that the sample primarily represents young university

students. In terms of gender, 63.16% of the respondents are female, 35.53% are male, and 1.32% chose not to disclose their gender, indicating a female-dominated sample. Regarding race, the majority of respondents are of Indian descent (52.63%), followed by Chinese (23.68%) and Malay (21.71%). A small proportion of respondents identified as Dusun (0.66%) and Punjabi (1.32%), showing that Indian students constitute the largest racial group in the sample.

With respect to academic level, most respondents hold a bachelor's degree (78.95%), while those pursuing a master's degree account for 10.53%. Diploma and certificate holders represent 9.21% and 0.66% of the sample, respectively, and respondents with a doctoral degree also account for 0.66%. In terms of institutional representation, respondents were drawn from several universities in Malaysia, with Universiti Sains Malaysia (USM) constituting the largest proportion at 54.90%, followed by Universiti Malaysia Kelantan (UMK) at 16.99% and Universiti Malaya (UM) at 4.58%. The remaining respondents were from other institutions, such as IMU and UPM, each representing a smaller proportion of the sample.

Regarding student status, 85.53% of the respondents are local students, while 14.47% are international students, indicating that the sample is predominantly composed of local students. In terms of monthly allowance or income, nearly half of the respondents (48.03%) receive less than RM500 per month, while 35.53% report a monthly income between RM501 and RM1000. A smaller proportion of respondents earn between RM1001 and RM1500 (7.90%), and 8.55% report a monthly income exceeding RM1500. This distribution suggests that most respondents fall within the lower-income category.

Finally, with regard to weekly cashless payment usage, 41.45% of respondents spend between RM51 and RM100 per week, followed by 24.34% who spend between RM101 and RM200. Respondents who spend more than RM200 per week account for 17.76%, while 16.45% spend less than RM50 per week. Overall, the findings indicate that the majority of respondents use cashless payment methods at a moderate weekly spending level.

Table 2. Descriptive Statistics, Cronbach's Coefficients Alpha and Zero-Order Correlations for all study variables

Variables	1	2	3	4	5	6
Spending Habits	0.712					
Social Influence	0.528***	0.735				
Consumer Behavior / Habits	0.431***	0.323***	0.865			
Safety and Security	0.518***	0.419***	0.204**	0.817		
Convenience	0.359***	0.293***	0.263***	0.494***	0.731	
Cashless payment	0.216***	0.131	0.197	0.310***	0.456***	0.775
Number of items	6	6	6	8	8	7
Mean	3.609	3.308	3.547	3.885	4.254	3.603
Standard deviation	0.757	0.970	0.912	0.762	0.790	0.726

Note. N = 153; *p<.05, **p<.01, ***p<.001. The diagonal entries represent Cronbach's Coefficient Alpha

The results of the descriptive statistics presented in Table 2 indicate that all proposed hypotheses are supported, with statistically significant positive relationships observed among the variables. Hypothesis 1, which posits that consumer habits are positively

related to spending habits using cashless payments, is supported. The findings reveal a significant positive correlation between consumer habits and cashless payment usage ($r = 0.216$, $p < 0.01$), suggesting that university students' consumption habits directly influence their tendency to use cashless payment methods. This result indicates that established consumption patterns play an important role in encouraging the adoption and continued use of cashless payments among university students.

Hypothesis 2, which states that cashless payments are positively related to spending habits using cashless payments, is also supported. The analysis shows a significant positive correlation between cashless payment usage and consumption habits ($r = 0.216$, $p < 0.01$). This finding suggests that cashless payment methods are closely associated with students' spending behavior, particularly among those who demonstrate a stronger preference for using digital payment methods in their daily consumption. The result highlights the reciprocal relationship between payment methods and consumption habits among university students.

Hypothesis 3 proposes that social influence is positively related to spending habits using cashless payments. The results indicate a positive correlation between social influence and cashless payment usage, with a correlation coefficient of $r = 0.131$. Although this relationship is positive, the relatively lower coefficient suggests that social influence exerts a weaker effect on spending habits compared to other factors. This finding implies that while social influence does play a role in shaping university students' payment behavior, individual consumption habits and perceptions of payment security appear to have a more substantial impact on their cashless payment decisions.

Hypothesis 4, which asserts that convenience is positively related to spending habits using cashless payments, is strongly supported. The results show a significant positive correlation between convenience and cashless payment usage ($r = 0.359$, $p < 0.01$). This indicates that convenience is a key determinant influencing university students' preference for cashless payment methods. Students tend to favor payment options that are fast, easy to use, and time-efficient, reinforcing the importance of convenience in shaping payment behavior.

Hypothesis 5, which states that safety and security are positively related to spending habits using cashless payments, is also supported. The findings reveal a significant positive correlation between safety and security and cashless payment usage ($r = 0.310$, $p < 0.01$). This result demonstrates that transaction security plays a critical role in university students' choice of payment methods, as students are more likely to adopt cashless payment systems that they perceive as secure and reliable.

Overall, the findings confirm that all five hypotheses are supported. Among the examined factors, consumer habits, convenience, and safety and security exert the strongest influence on university students' use of cashless payment methods. In addition, reliability analysis indicates that the measurement scales exhibit good internal consistency, with Cronbach's alpha values exceeding the recommended threshold of 0.7 for all constructs. The consumer habits dimension demonstrates the highest reliability, with a Cronbach's alpha value of 0.865, indicating excellent consistency in measuring students' daily consumption behavior. This is followed by the safety and security dimension, which reports a Cronbach's alpha value of 0.817, reflecting a high level of reliability across its measurement items a high degree of correlation consistency among its various measurement items.

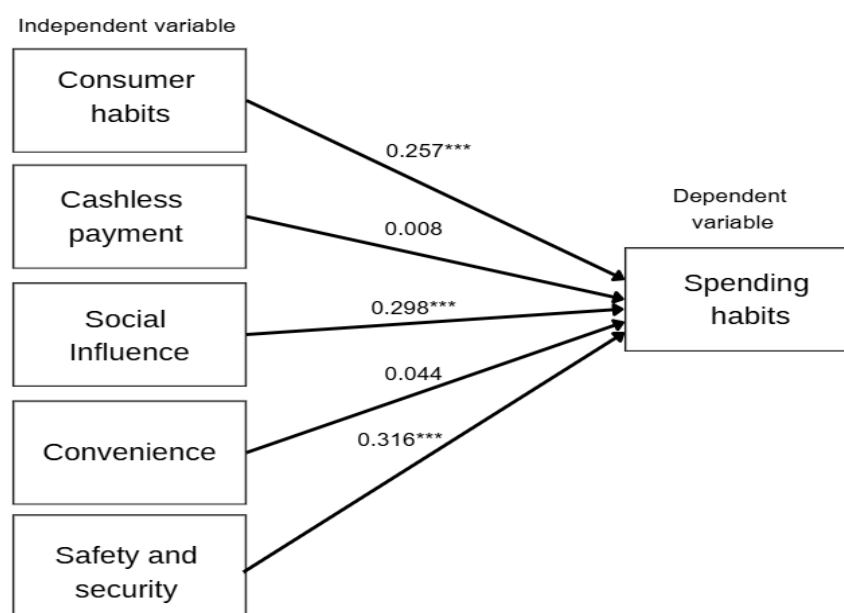
Table 3. Regression Analysis

Impact of Factors on Spending Habits (R ² Change = 0.449)	Beta
Convenience	0.044
Safety and Security	0.316***
Consumer Behaviour/Habits	0.257***
Social Influence	0.298***
Cashless payment	0.008

Note. N = 153; *p < 0.05, **p < 0.01, ***p < 0.001

According to the analysis results of the regression coefficient, the regression coefficient of social influence was 0.233 (t=4.229, p=0.000<0.01), and social influence had a significant positive impact on spending habits. The regression coefficient of consumer behavior/habits was 0.213 (t=3.877, p=0.000<0.01), and consumer behavior promoted the formation of spending habits to extent large. The regression coefficient of safety and security was 0.314 (t=4.195, p=0.000<0.01), which showed that safety and security had a significant positive impact on spending habits, and security played an important role in consumers' choice of payment methods. The regression coefficient of convenience was 0.043 (t=0.577, p=0.565>0.05), indicating that convenience had no significant effect on spending habits. The regression coefficient of cashless payment was 0.005 (t=0.108, p=0.914>0.05), which also indicated that cashless payment had no significant effect on spending habits. Combined with hypothetical analysis, H1: consumer habits are positively correlated with spending habits using cashless payments, although cashless payments have no significant impact on spending habits (p>0.05). Hence, social influence, consumer behavior, and safety and security have significant effects on spending habits, supporting the direct positive impact of these variables on spending habits. The hypothesis (H2) that cashless payments are positively correlated with spending habits using cashless payments is not supported because the regression coefficients of cashless payments are very low and not significant (p>0.05), H3: social influences are positively correlated with spending habits using cashless payments and H5: safety and security are positively correlated with spending habits using cashless payments, both of which have positive and significant regression coefficients (p<0.01). The hypothesis (H4) that convenience is positively correlated with spending habits using cashless payments is not supported because the regression coefficient of convenience is not significant (p>0.05). In summary, this study verifies that social influence, consumer behavior or habits, and safety and security have a significant positive impact on university students' spending habits, while convenience and cashless payment have a small impact. The summarized output of the hypothesized model is provided in [Figure 2](#).

Figure 2. Hypothesized Model



DISCUSSION

The regression analysis reveals that consumer habits and social influence are the strongest predictors of university students' spending behavior in the context of cashless payments. Both variables demonstrate statistically significant and moderate positive effects, indicating that students' spending patterns are shaped by a combination of internal behavioral tendencies and external social pressures. These findings support prior studies which emphasize that payment behavior is not formed in isolation but is influenced by family practices, peer interactions, and broader social norms (Venkatesh et al., 2012; Rahman et al., 2020). Peer-driven lifestyle choices and consumption norms have been shown to shape routine spending behavior, particularly among young consumers who are highly exposed to digital platforms and social networks (Gan et al., 2023; Xiao et al., 2023). The beta coefficients further highlight the fundamental role of social context in shaping financial practices, especially in influencing consumption decisions and spending patterns among university students (Ju et al., 2023).

Consumer habits also exhibit a significant positive effect on spending behavior, indicating that students with more established and consistent behavioral patterns, such as habitual use of cashless payment methods, are more likely to demonstrate stable spending behavior. This finding aligns with previous research suggesting that repeated usage and familiarity with digital payment systems reinforce habitual consumption patterns (Sapian & Ismail, 2021; Rafee et al., 2022). Although the beta coefficient for consumer habits is slightly lower than that of social influence, it remains a substantial predictor, underscoring the importance of internal behavioral mechanisms in shaping students' financial decisions. Prior studies have similarly noted that habitual behavior may either promote financial discipline or increase impulsive spending, depending on how digital payment habits are formed and managed (Humbani & Wiese, 2017; Patil et al., 2020).

In addition to social influence and consumer habits, safety and security emerge as significant determinants of students' engagement with cashless payment systems. The strong positive relationship observed suggests that students' willingness to use cashless payment methods is heavily influenced by their perceptions of system security, reliability, and data protection. This result is consistent with earlier findings indicating that trust, perceived security, and fraud prevention are critical drivers of digital payment adoption and continued usage (Abdul-Halim et al., 2021; Mohd Thas Thaker et al., 2022). Robust

security mechanisms, such as transaction monitoring and multi-layer authentication, have been shown to enhance users' confidence and encourage sustained engagement with cashless payment platforms (Kee et al., 2021; Kee et al., 2022a).

Conversely, the regression results indicate that convenience and cashless payment usage itself do not have a statistically significant effect on students' spending behavior. This finding contrasts with earlier adoption-focused studies that identified convenience as a primary driver of cashless payment acceptance (Leong et al., 2013; Dahlberg et al., 2015). One plausible explanation is that cashless payment systems have become deeply embedded in students' daily routines, leading to the normalization of digital transactions. As a result, convenience may no longer be perceived as a motivating factor but rather as a basic infrastructural feature of modern financial systems (Gan et al., 2023; Ishak et al., 2024). Similarly, cashless payment usage may function more as an enabling mechanism rather than a direct behavioral driver among digitally native populations who regard electronic payments as standard practice (Kee et al., 2022a; Rahman et al., 2020). The findings offer several practical implications for stakeholders. University administrators and fintech developers should prioritize safety and security features in the design of cashless payment applications, particularly those that enhance user control, transparency, and personal data protection. Previous studies suggest that strengthening trust through system reliability is essential for encouraging responsible digital payment usage (Abdul-Halim et al., 2021; Mohd Thas Thaker et al., 2022). In addition, promotional strategies that leverage social influence, such as peer-led financial literacy initiatives or student ambassador programs, may be more effective than traditional advertising approaches (Ju et al., 2023; Xiao et al., 2023). Furthermore, integrating behavior-supportive features, including spending alerts, budgeting tools, and digital savings reminders, may help channel habitual usage patterns toward more responsible financial behavior (Sapian & Ismail, 2021; Rafee et al., 2022).

Overall, the magnitude and statistical significance of the regression coefficients underscore the importance of both external social factors and internal behavioral mechanisms in shaping students' spending behavior within an increasingly digital financial environment. As cashless payment systems continue to expand, these findings provide valuable insights for educational institutions, fintech providers, and policymakers seeking to design interventions that promote sound financial habits and responsible spending among university students (Venkatesh et al., 2012; Rahman et al., 2020).

CONCLUSION

This study achieved its two primary objectives by examining the adoption of cashless payment systems and assessing their influence on the spending behavior of university students in Malaysia. The findings indicate that safety and security, consumer habits, and social influence have a positive impact on students' spending behavior when using cashless payment methods. In contrast, cashless payment usage and convenience, which are considered standard features among digitally native university students, did not demonstrate a statistically significant effect.

The results are consistent with previous studies suggesting that while digital payment systems simplify transactions, they also reshape consumer behavior through social influence and trust in payment system security. This study highlights that social and psychological factors play a more critical role in shaping financial behavior than the functional aspects of technology alone.

Based on these findings, fintech developers and policymakers should prioritize the enhancement of security features and leverage social influence mechanisms, such as

peer-driven promotion, to encourage responsible adoption of digital payment systems among students. In addition, financial education programs should integrate these behavioral factors to support students in developing stronger budgeting skills and more disciplined spending habits within a cashless economy.

This study also underscores the growing importance of integrating financial technology into higher education and encourages universities to adapt their financial literacy programs to reflect developments in the digital financial landscape. Equipping young adults with the knowledge and tools required to manage their finances effectively in a cashless environment may enhance long-term financial well-being, reduce impulsive spending, and strengthen personal financial management capabilities. Overall, this study contributes to a deeper understanding of how digital financial instruments are reshaping the spending behavior of Malaysia's younger generation.

LIMITATION

Nevertheless, this study has several limitations. First, the sample size and demographic scope are limited to Malaysian university students aged between 19 and 26 years, which may restrict the generalizability of the findings to other age groups or populations. Second, the use of self-reported survey data may introduce response bias, as individual differences in perception and reporting of spending habits cannot be fully controlled. Third, the cross-sectional research design limits the ability to establish causal relationships or examine changes in spending behavior over time. In addition, the quantitative approach employed in this study may not fully capture deeper psychological, social, and environmental factors that influence students' spending behavior following the adoption of cashless payment methods.

To enhance generalizability and provide a more comprehensive understanding of the phenomenon, future research is encouraged to adopt mixed-method or longitudinal research designs. Longitudinal studies could be conducted to examine changes in spending habits over time and to better understand habit formation and modification in a cashless environment. Future studies may also incorporate additional variables, such as financial literacy, personality traits, or self-control, as spending behavior may vary across individuals and over time. Furthermore, cross-cultural comparative studies involving different age groups and countries could offer richer insights into the dynamics of cashless payment usage and spending behavior, thereby providing a more robust and comprehensive perspective on consumer financial habits.

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DECLARATION OF CONFLICTING INTERESTS

The authors have declared no potential conflicts of interest concerning the study, authorship, and/or publication of this article.

REFERENCES

- Abdul-Halim, N.-A., Vafaei-Zadeh, A., Hanifah, H., Teoh, A. P., & Nawaser, K. (2021). Understanding the determinants of e-wallet continuance usage intention in Malaysia. *Quality & Quantity*, 56, 341–360. <https://doi.org/10.1007/s11135-021-01276-7>

- Aji, H. M., & Adawiyah, W. R. (2022). How e-wallets encourage excessive spending behavior among young adult consumers?. *Journal of Asia Business Studies*, 16(6), 868-884. <https://doi.org/10.1108/JABS-01-2021-0025>
- Audry, S. R., & Navila, I. (2023). Adaptive Strategies of Digital Transformation on Students' Consumptive Behavior in the Era of Society 5.0. *Cirebon International Journal of Economics and Business*, 1(2), 171-179. <https://doi.org/10.24235/cijeb.v1i2.25>
- Dahlberg, T., Guo, J., & Ondrus, J. (2015). A critical review of mobile payment research. *Electronic Commerce Research and Applications*, 14(5), 265–284. <https://doi.org/10.1016/j.elerap.2015.07.006>
- Digital News Asia. (2023, March 8). *E-payment adoption in Malaysia going full steam ahead*. Digital News Asia. <https://www.digitalnewsasia.com/digital-economy/e-payment-adoption-malaysia-going-full-steam-ahead>
- Digital News Asia. (2021, April 16). *Malaysia's real-time payments transactions surge by 864% in 2020: ACI Worldwide*. Digital News Asia. <https://digitalnewsasia.com/business/malysias-real-time-payments-transactions-surge-864-2020-aci-worldwide>
- Do, T. N., Burke, P. J., Nguyen, H. N., Overland, I., Suryadi, B., Swandaru, A., & Yurnaidi, Z. (2021). Vietnam's solar and wind power success: Policy implications for the other ASEAN countries. *Energy for Sustainable Development*, 65, 1–11. <https://doi.org/10.1016/j.esd.2021.09.002>
- Edeh, F. O., Aryani, D. N., Subramaniam, T. A., Kee, D. M. H., Samarth, T., Nair, R. K., Kannappan, T. A., Tan, Y. S., & Teh, Y. C. (2021). Impact of COVID-19 pandemic on consumer behavior towards the intention to use e-wallet in Malaysia. *International Journal of Accounting & Finance in Asia Pasific*, 4(3), 42–59. <https://doi.org/10.32535/ijafap.v4i3.1205>
- Gan, E. H. J., Yeap, J. A. L., Li, C., & Ooi, S. K. (2023). Sustained interest in e-wallet adoption among Malaysian consumers. *International Journal of Academic Research in Business and Social Sciences*, 13(12), 1557–1573. <https://doi.org/10.6007/IJARBS/v13-i12/18630>
- Gao, G. Y., Murray, J. Y., Kotabe, M., & Lu, J. (2010). Erratum: A “strategy tripod” perspective on export behaviors: Evidence from domestic and foreign firms based in an emerging economy. *Journal of International Business Studies*, 41(6), 1090–1091. <https://doi.org/10.1057/jibs.2010.32>
- Humbani, M., & Wiese, M. (2017). A cashless society for all: Determining consumers' readiness to adopt mobile payment services. *Journal of African Business*, 19(3), 409–429. <https://doi.org/10.1080/15228916.2017.1396792>
- Ishak, M. F., Mahmood, A. N., Mohamad, I., Nik Rizal, N. R. B., Norazam, N. B., & Hashim, B. (2024). Adoption of cashless payment among undergraduate students: A case study. *Information Management and Business Review*, 16(3S), 1072–1085. [https://doi.org/10.22610/imbr.v16i3s\(i\)a.4197](https://doi.org/10.22610/imbr.v16i3s(i)a.4197)
- Ju, J., Teo, P.-C., Ho, T. C. F., & Ling, C. H. (2023). The behavioral intention of young Malaysians towards a cashless society: A value-based adoption model. *Cogent Business & Management*, 10(2), Article 2244756. <https://doi.org/10.1080/23311975.2023.2244756>
- Kee, D. M. H., Binti Nor Hisam, N. N., Binti Abd Rashid, N. H., Binti Abdul Aziz, N. S., Binti Mazlan, N. A., & Binti Mahadi, N. A. Z. (2021). The impact of using cashless payment during the COVID-19 pandemic: A case study of Maybank. *International Journal of Accounting & Finance in Asia Pasific*, 4(2), 107–117. <https://doi.org/10.32535/ijafap.v4i2.1118>
- Kee, D. M. H., Lai, K. H., Lee, J. C., Lee, K. J., Lee, J. L., Yosanti, I., & Aryani, D. N. (2022). Do you have a digital wallet? A study of e-wallet usage during the COVID-19 pandemic. *International Journal of Accounting & Finance in Asia Pasific*, 5(1), 24–38. <https://doi.org/10.32535/ijafap.v5i1.1413>

- Kee, D. M. H., Ow, A. L., Ooi, Z. J., Sathiaseelan, P., Pang, K., Ka, S., & Madhan, S. (2022). Have you touched? A case study of Touch 'n Go e-wallet. *International Journal of Accounting & Finance in Asia Pasific*, 5(1), 84–94. <https://doi.org/10.32535/ijafap.v5i1.1416>
- Kutty, R. M., Masrom, M., Nik Hassan Nik, N., Mohdali, R., Zakaria, W. N. W., Razak, F. A., Yahya, H., Rahim, R., & Aris, A. (2022). The influence of internet addiction and time spent on the internet towards social isolation among university students in Malaysia. *Asian Social Science*, 18(10), 32. <https://doi.org/10.5539/ass.v18n10p32>
- Leong, L.-Y., Hew, T.-S., Tan, G. W.-H., & Ooi, K.-B. (2013). Predicting the determinants of NFC-enabled mobile credit card acceptance: A neural networks approach. *Expert Systems with Applications*, 40(14), 5604–5620. <https://doi.org/10.1016/j.eswa.2013.04.018>
- Lu, M.-P., & Kosim, Z. (2023). The effect of COVID-19 on consumers' payment behaviour: Integrating the theory of planned behaviour and the health belief model. *Advances in Economics, Business and Management Research*, 106–121. https://doi.org/10.2991/978-2-494069-99-2_9
- Mohd Thas Thaker, H., Subramaniam, N. R., Qoyum, A., & Hussain, H. I. (2022). Cashless society, e-wallets and continuous adoption. *International Journal of Finance & Economics*, 28(3), 3104–3120. <https://doi.org/10.1002/ijfe.2596>
- Patil, P., Tamilmani, K., Rana, N. P., & Raghavan, V. (2020). Understanding consumer adoption of mobile payment in India: Extending the Meta-UTAUT model. *International Journal of Information Management*, 54, 102144. <https://doi.org/10.1016/j.ijinfomgt.2020.102144>
- Rafee, B. M., Ramesh, V., Asan, S. J., Amzad, B., & Zaheed, M. (2022). A survey on implications of cashless payments on the spending patterns of urbanites in the era of digital India. *International Journal of Early Childhood Special Education*, 14(7), 2040–2048. <https://doi.org/10.48047/INTJECSE/V14I7.289>
- Rahman, M., Ismail, I., & Bahri, S. (2020). Analysing consumer adoption of cashless payment in Malaysia. *Digital Business*, 1(1), Article 100004. <https://doi.org/10.1016/j.digbus.2021.100004>
- Salloum, S. A., Al-Emran, M., Khalaf, R., Habes, M., & Shaalan, K. (2019). An Innovative Study of E-Payment Systems Adoption in Higher Education: Theoretical Constructs and Empirical Analysis. *International Journal of Interactive Mobile Technologies*, 13(6). <https://doi.org/10.3991/ijim.v13i06.9875>
- Sapian, N. M., & Ismail, S. N. (2021). The impact of using cashless transactions among Malaysian consumers towards payment systems performance. *Research in Management of Technology and Business*, 2(1), 420–436.
- Schramm, M. E., Trainor, K. J., Shanker, M., & Hu, M. Y. (2010). An agent-based diffusion model with consumer and brand agents. *Decision Support Systems*, 50(1), 234–242. <https://doi.org/10.1016/j.dss.2010.08.004>
- Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36(1), 157–178. <https://doi.org/10.2307/41410412>
- Xiao, G., Calvin, S., Osman, M., & Wai, C. (2023). A comparative study on the adoption of cashless payment: Malaysia and China. *International Journal of Academic Research in Business and Social Sciences*, 13(11), 468–479. <https://doi.org/10.6007/IJARBS/v13-i11/19282>

ABOUT THE AUTHOR(S)

1st Author

Annie Pooi Hang Wong is a Lecturer at Oneworld Hanxin College. She holds a Master of Arts in Management (IR4.0). Her research interests focus on management, digital transformation, and contemporary business practices.

ORCID: <https://orcid.org/0000-0002-3477-9935>

Email: anniephwong.my@gmail.com

2nd Author

Dr. Padmalini Singh is an Associate Professor in the Department of Business Administration, BNM Institute of Technology, Bangalore, India. She holds a PhD and her academic interests include business management, innovation, and organizational studies.

ORCID: <https://orcid.org/0000-0003-3617-3774>

Email: singhpadmalini@gmail.com

3rd Author

Dr. Lok Yee Huei is a Senior Lecturer at the Tunku Puteri Intan Safinaz School of Accountancy (TISSA), Universiti Utara Malaysia. She obtained her PhD in Financial Reporting, Master of Economic Management, and Bachelor of Accounting from Universiti Sains Malaysia. Her research interests include integrated reporting, corporate reporting, and corporate disclosures. She has over 11 years of teaching experience in higher education institutions. Affiliation: Tunku Puteri Intan Safinaz School of Accountancy, Universiti Utara Malaysia, 06010 Sintok, Kedah, Malaysia

Email: lok.yee.huei@uum.edu.my

4th Author

Yoshanaa Elang Kesvaran is an undergraduate student at Universiti Sains Malaysia. Her academic interests include business management and digital finance.

ORCID: <https://orcid.org/0009-0002-1375-8200>

Email: yoshanaa1602@student.usm.my

5th Author

Yu Dajun is an undergraduate student at the School of Management, Universiti Sains Malaysia. His academic interests include management studies and business analytics.

Email: yvdajun@student.usm.my

6th Author

Yu Shengpu is an undergraduate student at the School of Management, Universiti Sains Malaysia. His research interests focus on business management and financial technology.

Email: yushengpu534@gmail.com

7th Author

Yu Zixin is an undergraduate student at the School of Management, Universiti Sains Malaysia. Her academic interests include management and digital business.

Email: yzixin198@gmail.com

8th Author

Dr. Daisy Mui Hung Kee is an Associate Professor at the School of Management, Universiti Sains Malaysia. She also serves as an External Professor at Qingdao Hengxing University of Science and Technology, China, and as a Visiting Professor at Pusan National University, South Korea. She holds a PhD in Business and Management from the University of South Australia and an MBA from Universiti Sains Malaysia. With more than 75 Web of Science-indexed and over 113 Scopus-indexed publications, she

is widely recognized for her academic contributions. Dr. Kee is the Country Director of the Association of International Business and Professional Management (AIBPM) in Indonesia and the STAR Scholars Network in the United States.

Email: daisy@usm.my