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The Effect of Financial Literacy, Social Influence, and Perceived Enjoyment on Cashless Behaviour: The Moderating Role of Facilitating Conditions

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Abstract

Global transactions and technological developments have posed cashless transaction challenges for micro-, small-, and medium-sized batik businesses in Indonesia. Financial literacy, social influence, and perceived enjoyment are the factors that can influence the success of cashless transactions. Furthermore, facilitating conditions can support MSMEs' success in implementing cashless transactions. Therefore, this study aims to analyse the effect of financial literacy, social influence, and perceived enjoyment on cashless transactions in batik MSMEs in Indonesia. In addition, this study also analyses the role of facilitating conditions as a moderating variable. This study uses SEM-PLS and is operated by WarpPLS 8.0. The sample for this research consisted of 100 batik MSMEs from Pekalongan, Central Java, Indonesia. Data collection was conducted over two months. The analysis shows that financial literacy has a significant positive effect on cashless transactions. Moreover, perceived enjoyment also has a considerable positive impact. Furthermore, facilitating conditions can moderate the influence of perceived enjoyment on cashless transactions. However, facilitating conditions fail to moderate both the influence of financial literacy on cashless transactions and the influence of social influence on cashless transactions.

Keywords: batik industry, digital transaction, financial behaviour, non-cash transaction, social factors

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Introduction

Micro, small, and medium enterprises (MSMEs) play an essential role in Indonesia's economic growth. There are 66 million MSMEs in Indonesia, accounting for 61% of gross domestic product (GDP) [1]. Moreover, MSMEs employ 117 million workers, or 97% of Indonesia's total workforce in 2023 [1]. However, MSMEs in Indonesia face challenges in entering the digital transaction era. The number of MSMEs entering the digital ecosystem in 2022 was only 20.76 million [1]. In fact, the Central Bank of Indonesia has facilitated digital transactions for MSMEs, for example, through the Indonesian Quick Response Code Standard (QRIS). Hence, this circumstance illustrates the low level of cashless transaction use among MSMEs in Indonesia. Several factors, such as financial literacy, social influence, and perceived enjoyment, can contribute to the low level of cashless transaction usage in Indonesia.

Financial literacy is the first factor that can affect cashless behaviour in Indonesia. [2] found that MSMEs' financial literacy in Indonesia affects cashless behaviour. A high level of knowledge of MSMEs' understanding of financial management drives their decision to use one of the financial technology products. Moreover, financial literacy can change people's mindsets in making financial decisions, such as applying cashless transactions [3]. Furthermore, financial literacy will increase the number of digital transactions conducted by MSMEs and encourage the transition from a conventional to a modern economy [4].

Besides financial literacy, social influence is another factor that can affect cashless behaviour. According to [5], social influence is the process by which an individual changes their behaviour to adapt to the demands of the social environment; for example, the more people around them use electronic or digital payments, the greater their desire to also use electronic payment tools [6]. Moreover, several parties, such as celebrities, family members, friends, or colleagues, can influence consumer behaviour in adopting cashless payments [5].

Perceived enjoyment can also affect cashless behaviour. Perceived enjoyment is one of the factors influencing behavioural intention to use mobile wallets for cashless transactions in Vietnam [7]. The higher the perceived enjoyment, the greater the intention to use mobile wallets in Vietnam. Furthermore, [8] showed that the effect of the user's perception of enjoyment is more substantial as the user gains more experience with the system over time. [8] found that the more frequently a user uses a system, such as OVO, the stronger the system's influence on the user's intention. [9] found that perceptions of enjoyment influence the intention to use electronic money. The greater the enjoyment of using electronic money, the greater the motivation to use it as a payment instrument.

Facilitating conditions also play an essential role in supporting cashless behaviour. The presence of devices, such as internet-enabled smartphones, knowledge of how to use mobile wallet services, and acceptance of mobile wallet service providers, may encourage the use of cashless transactions [10]. Facilitating conditions are also among the factors that promote the use of e-wallets for cashless transactions [10]. Facilitating conditions have proven to be a significant factor in determining the performance of payment systems [11]. Hence, the government should focus on improving facilities that support cashless transactions [12].

The batik industry is one of Indonesia's growing sectors, dominated by MSMEs. Currently, there are 3,159 batik MSMEs in Indonesia. Furthermore, batik MSMEs also make a significant contribution to Indonesia's economy. According to the Indonesian Ministry of Industry, batik exports in 2020 reached USD 532.7 million, and this figure increased by USD 157.8 million in the first quarter of 2021 alone. Given this economic significance, the digital transformation of batik MSMEs becomes increasingly crucial for sustaining growth. Financial digitalisation in Indonesia encourages MSMEs to use non-cash transactions [13]. The trend of buying and selling products through marketplaces fosters the adoption of non-cash transactions [14]. Hence, financial literacy can assist MSMEs in the batik industry to develop cashless behaviour [15].

Previous studies examined the effect of financial literacy on cashless behaviour [4; 16–18]. Moreover, previous researchers also analysed the impact of social influence on cashless behaviour [5; 6; 19; 20]. Furthermore, the relationship between perceived enjoyment and cashless behaviour has also been discussed in previous studies [8; 9; 21; 22]. Nevertheless, these prior studies obtained different results. Thus, another factor can moderate the effects of financial literacy, social influence, and perceived enjoyment on cashless behaviour. Hence, the novelty of this research lies in applying facilitating conditions as a moderating variable. If digital infrastructure is available and easily accessible, individuals with high financial literacy will be more encouraged to conduct digital transactions. Conversely, if internet access is limited or digital payment systems are unstable, insufficient financial literacy fails to encourage cashless behaviour. The first part of this research discusses the research background. The second part of this research presents the literature review, including theory, prior studies, and hypotheses. Subsequently, the third part will examine the method. The fourth part of this research will present the analysis results and the discussion. The final part forms the conclusion of this research.

Literature Review

Unified Theory of Acceptance and Use of Technology

This research employs the unified theory of acceptance and use of technology (UTAUT), following the approach of [14] and [11]. UTAUT emphasises that performance expectations, effort expectations, social influence, and supporting conditions are the four essential aspects that influence technology acceptance [14]. UTAUT consists of four elements. The first element is performance expectancy, or the belief that applying technology can improve work results and provide clear benefits. The second element is

effort expectancy, or the perception of how easy it is to use technology. The third element is social influence, which is the degree to which a person feels that significant others (friends, family, or co-workers) think they should use technology. Social influence refers to consumers' perceptions that important people in their lives consider this technology necessary [14]. The fourth element is facilitating conditions, which express the perception that infrastructure and resources are available to support the use of technology.

The Effect of Financial Literacy on Cashless Behaviour

According to the UTAUT theory, an increase in financial literacy indicates a stronger tendency to understand the advantages, perceive convenience, and believe in using cashless payment systems. The OECD's financial literacy scale is measured across three main dimensions: knowledge, behaviour, and attitude. Knowledge is an understanding of basic financial concepts, such as interest, inflation, risk, and diversification. Behaviour is how individuals manage money, save, budget, and make financial decisions. Meanwhile, attitude is a perspective on future planning, consumption versus saving tendencies, and long-term orientation. Previous studies discuss the effect of financial literacy on cashless behaviour. [16] discussed the impact of financial literacy on cashless behaviour in the Blora Regency Secretariat. They found that financial literacy has a positive and significant effect on cashless behaviour. Moreover, [17] analysed the relationship between financial literacy and cashless behaviour of MSMEs in Bekasi City, Indonesia. They found that financial literacy has a positive and significant relationship with cashless behaviour. Furthermore, [18] examined the impact of financial literacy on cashless transactions among students in Yogyakarta. They revealed that financial literacy and cashless transactions move in the same direction. [19] discussed the effect of financial literacy on digital financial transactions, such as cashless transactions. As in [18], financial literacy positively affects cashless transactions.

H1: *Financial literacy has a positive effect on cashless behaviour.*

The Effect of Social Influence on Cashless Behaviour

The UTAUT theory emphasises that cashless payment behaviour is not solely driven by efficiency and convenience, but is also shaped by social support, peer pressure, and emerging trends. Strong social influence will increase the intention and implementation of cashless use. Social factors are also among the factors that affect cashless transactions. [20] discussed the impact of social influence on cashless payments. Their study found that social influence positively affects cashless transactions. Social influence can increase an individual's intention to apply and utilise a technology. [5] analysed the influence of social influence on cashless transactions in Malaysia. They found that social influence positively affects cashless transactions. Furthermore, [6] discussed the effect of social influence on the cashless behaviour of Generation Z in Indonesia. They found that social influence has a positive and significant impact on cashless behaviour.

H2: *Social influence has a positive effect on cashless behaviour.*

The Effect of Perceived Enjoyment on Cashless Behaviour

According to UTAUT theory, the enjoyment derived from using digital payment technology serves as an internal driver that strengthens user intentions and behaviour. The higher the level of enjoyment, the greater the chance of widespread and consistent cashless adoption. [21] discussed the effect of perceived enjoyment (affect) on the cashless behaviour of MSMEs in Indonesia. They revealed that emotional response has a positive and significant effect on cashless behaviour. Moreover, [23] discussed the impact of MSMEs' emotional reactions on cashless behaviour in Indonesia. Furthermore, [9] examined the effect of perceived enjoyment on the intention to use electronic money for cashless transactions in Manado, Indonesia. The study found that perceived enjoyment and the intention of using electronic money have a positive influence. In addition, [22] discussed the effect of perceived enjoyment on M-payment (digital payment) as a form of cashless transaction in West Papua. They found a significant effect of perceived enjoyment on M-payment.

H3: *Perceived enjoyment has a positive effect on cashless behaviour.*

Facilitating Conditions as a Moderating Variable of the Effect of Financial Literacy, Social Factors, and Perceived Enjoyment on Cashless Behaviour

Referring to UTAUT, the more optimal the technical support, infrastructure, and resources available, the greater the opportunity for individuals to realise the use of non-cash payments, rather than stop at intentions or motivation. [10] discussed the relationship between facilitating conditions and expectations regarding the use of cashless transactions to implement cashless behaviour in Malaysia. They found a relationship between facilitating conditions and cashless transactions. [11] examined the impact of facilitating conditions on payment system performance as a cashless application. The study found that facilitating conditions are significantly related to payment system performance. [12] analysed the effect of facilitating conditions on the intention to use cashless transactions in Padang Panjang, West Sumatra, Indonesia. They found that facilitating conditions have a positive and significant effect on cashless transactions. Hence, based on those previous studies, facilitating conditions can affect cashless transactions.

Several previous studies also analysed the Quick Response Code Indonesian Standard (QRIS) application as a supporting facility for cashless transactions. [23] discussed

the effects of QRIS on consumer behaviour in Indonesia's cashless society. The study revealed that QRIS is popular because it is practical, fast, and secure, and supports transactions in various denominations. However, this convenience also encourages impulsive consumer behaviour, as users find it easier to spend money without control. [24] analysed the QRIS application for MSMEs in Denpasar City. They discovered that facilitating conditions influence behavioural intentions, suggesting that MSMEs in Denpasar City are encouraged to adopt QRIS due to adequate facilities. While this study focuses on facilitating conditions as a moderator, previous research has also examined other moderating variables, such as gender and awareness of cybercrime. [25] examined the role of gender as a moderating variable in shaping fintech users' continuance intentions in Indonesia. This study shows that gender moderates the relationship between risk perception and continuance intention for fintech use. In addition, [26] investigated the role of cybercrime awareness as a moderating variable in cashless transaction adoption in Indonesia. They showed that awareness of cybercrime can successfully moderate the influence of performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit on the use of cashless transactions. These findings highlight the multifaceted role of enabling conditions in supporting cashless adoption across different contexts.

UTAUT emphasises that facilitating conditions are a determining factor that strengthens the influence of financial literacy on cashless behaviour. With the support of appropriate technology and facilities, digital payment adoption will increase significantly. [27] explored the role of financial access as a moderator variable of the effect of financial literacy on the performance of 155 MSMEs in Kuwait. Their study found that financial access significantly moderates the relationship between financial literacy and MSME performance; greater access to financial services magnifies the benefits of financial literacy.

Social factors can influence individuals to switch to cashless transactions. Still, this influence does not always translate into actual behaviour if supporting facilities, such as QRIS at merchants, are not readily available. According to the UTAUT perspective, adequate supporting conditions are crucial because they amplify social effects, making environmental pressure more effective in encouraging the use of digital payments. [28] investigated the impact of organisational facilitating conditions on technology acceptance and the effectiveness of virtual communities of practice in Spain. They used 110 non-governmental organisations as a sample. [28] found that facilitating conditions positively impact effectiveness and that virtual collaborative interactions also play a significant role.

[29] explored how performance expectations, ease of use, social influence, supporting conditions, and perceptions of enjoyment influence user intentions and behaviour in using online market applications among Tokopedia application users in Denpasar City. They emphasised the importance of optimising the features of online shopping applications to make the interfaces more interactive and user-friendly. Improving the shopping experience and making product discovery easier are believed to encourage greater service usage, while simultaneously strengthening distribution strategies and expanding market reach.

H4: *Facilitating conditions can moderate the effect of financial literacy on cashless behaviour.*

H5: *Facilitating conditions can moderate the effect of social influence on cashless behaviour.*

H6: *Facilitating conditions can moderate the effect of perceived enjoyment on cashless behaviour.*

Method

Data and Research Sample

The sample of this research comprises batik MSMEs in Central Java, Indonesia. Purposive sampling is used as a sampling technique, following [30] and [31] . The sampling criteria are batik MSMEs located in the city of Pekalongan that have used non-cash transaction methods. The sample size was determined using the Slovin formula, as described by [2]. Thus, the total sample of this research was 100 batik MSMEs in Pekalongan, Central Java, Indonesia. This research uses primary data collected from respondents via a questionnaire or Google Form.

Research Variables and Measurement

This research uses three independent variables: financial literacy, social influence, and perceived enjoyment. The dependent variable is cashless behaviour, and the moderating variable is facilitating conditions. In this study, control variables were not used because the primary focus was to examine the direct relationship between the independent and dependent variables. Furthermore, the sample used was relatively homogeneous (all batik MSMEs in the same geographical region with similar business operations), so the influence of external factors was considered minimal. Table 1 presents the variables, definitions, and indicators of all variables in this research.

Analysis Model

This research applies validity and reliability tests. The validity test consists of convergent validity and discriminant validity. The loading factor is used to test convergent validity, and it must be greater than 0.4. Moreover, average variance extracted (AVE) is applied to test discriminant validity. Furthermore, composite reliability is employed to test reliability of latent constructs. All constructs must have composite reliability values greater than 0.6, indicating adequate internal consistency.

This research employs WarpPLS 8.0 to test the research hypotheses. Partial Least Squares (PLS) analysis is a variance-based Structural Equation Modelling (SEM) statistical method designed to address multiple regression problems when specific issues arise in the data, such as missing data, small sample sizes, and multicollinearity [32]. The PLS evaluation model is used to assess the out-

Table 1. Variable Definitions and Indicators

Variables	Definitions	IndiCators
Cashless Behaviour	Cashless behaviour is a habit of people making transactions without using cash, but instead using digital or electronic payment methods.	1. I use non-cash payment methods because they make my job easier. 2. Using non-cash payment methods makes me feel safer. 3. Using non-cash payment methods makes my payment process faster/shortens the time.
Financial Literacy	Individual knowledge and ability to understand how to manage finances, which is measured across three main dimensions: knowledge, behaviour, and attitude.	1. I know the payment methods for non-cash transaction products. 2. I know the implications of non-cash transaction costs. 3. I know the benefits of non-cash transactions.
Social Influence	The influence of significant others and social groups on an individual's decision to adopt particular behaviours in a specific social environment	1. The government issues regulations that encourage the use of non-cash transactions. 2. The use of non-cash transactions is recommended by friends and family. 3. The use of non-cash transactions is recommended by colleagues/supervisors at my workplace. 4. Non-cash transactions are recommended by the community to which I belong.
Perceived Enjoyment	Direct emotional response to a thought about a particular behaviour	1. Using non-cash payment methods creates a sense of practicality. 2. Using non-cash payment methods creates a sense of calm because I can transfer money at any time to colleagues during an emergency. 3. Using non-cash payment methods does not cause concerns.
Facilitating Conditions	Objective factors in an environment that can make a behaviour easier or more difficult, according to each individual's assessment	1. Availability of non-cash payment tools (debit cards, credit cards, e-money, etc.) can be found in the surrounding area. 2. The available communication network is stable when non-cash transactions are carried out. 3. Non-cash transaction tools can be owned with conditions that are easy to fulfil (internal) 4. Non-cash transaction tools are easy to use. 5. The system network for carrying out non-cash transactions does not experience many disruptions.

er model and the inner model. Evaluation of the outer model with reflective indicators is assessed through validity, mainly convergent validity. A reflective indicator is said to have high convergent validity if the correlation is (> 0.60). On the other hand, the evaluation of the inner model (structural model) is done by the percentage of variance explained by the R^2 value. If $R^2 \geq 0.70$, this indicates a strong model; if $R^2 \geq 0.45$, this denotes a moderate model, and if $R^2 \geq 0.25$, this reveals a weak model. Moreover, a partial significance test (t-test) is conducted to determine the extent to which the independent variable influences the dependent variable. The hypothesis is considered accepted if the p-value is < 0.05. Furthermore, the Variance Accounted For (VAF) value is used to evaluate the extent to which the mediation effect influences the whole, based on the indirect effect. Model fit testing is carried out using goodness-of-fit measures. In addition, bootstrap analysis is used to test the significance of the path and estimate the confidence interval of the parameter estimates.

Table 2. Convergent Validity

	Cashless Behaviour	Financial Literacy	Social Influence	Perceived Enjoyment	Facilitating Conditions	M*Z	p-Value
Y1	**0.915**	–0.162	0.014	0.075	–0.035	-0.073	< 0.001
Y2	**0.943**	–0.016	–0.036	0.095	–0.046	–0.017	< 0.001
Y3	**0.890**	0.184	0.024	–0.177	0.085	0.093	< 0.001
X1_1	0.162	**0.814**	0.029	–0.183	–0.010	0.011	< 0.001
X1_3	–0.162	**0.814**	–0.029	0.183	0.010	–0.011	< 0.001
X2_1	0.192	–0.069	0.022	–0.138	–0.144	0.134	< 0.001
X2_2	0.135	–0.077	–0.025	–0.085	0.058	0.019	< 0.001
X2_3	–0.303	0.140	0.011	0.204	0.047	–0.127	< 0.001
X3_2	0.214	–0.126	**0.669**	0.141	0.058	0.092	< 0.001
X3_3	–0.021	0.074	**0.871**	–0.169	–0.017	–0.081	< 0.001
X3_4	–0.135	0.022	**0.921**	0.057	–0.026	0.010	< 0.001
X4_1	0.359	0.137	–0.028	**0.734**	0.003	–0.003	< 0.001
X4_2	–0.266	–0.092	0.081	**0.896**	–0.040	–0.030	< 0.001
X4_3	–0.030	–0.021	–0.061	**0.847**	0.040	0.034	< 0.001
M1	0.311	0.062	–0.109	–0.217	–0.178	0.054	< 0.001
M2	–0.190	0.016	0.099	0.067	0.070	–0.023	< 0.001
M3	–0.045	–0.063	–0.018	0.098	0.065	–0.018	< 0.001
Z2	0.106	–0.135	–0.098	0.017	**0.803**	0.019	< 0.001
Z3	0.065	–0.200	–0.192	0.070	**0.403**	0.432	< 0.001
Z4	0.351	0.371	0.079	–0.172	**0.456**	0.004	< 0.001
Z5	–0.390	0.029	0.172	0.053	**0.697**	–0.276	< 0.001
M*Z	0.000	0.000	0.000	0.000	0.000	**1.000**	< 0.001

Source: Output of WarpPLS 8.0.

Results and Discussion

Results

Validity Test

Table 2 presents the results of the convergent validity test. Table 2 demonstrates that all factor loadings are above 0.4 and the *p*-values are < 0.001; thus, all indicators meet the requirements for convergent validity. Furthermore, the results above indicate that each indicator has a cross-loading value greater than the loading factor value of the other constructs.

Discriminant Validity

Table 3 presents the results of the discriminant validity analysis. According to Table 3, all variables have AVE values above 0.5 (the critical value). Hence, these results indicate that the discriminant validity in this research is valid.

Table 3. Discriminant Validity

	AVE	Critical Value	
Cashless Behaviour	0.916	0.5	Valid
Financial Literacy	0.814	0.5	Valid
Social Influence	0.827	0.5	Valid
Perceived Enjoyment	0.828	0.5	Valid
Facilitating Conditions	0.613	0.5	Valid
M*Z	1.000	0.5	Valid

Source: Output of WarpPLS 8.0.

Table 4. Composite Reliability

Variable	Composite Reliability
Cashless Behaviour	0.940
Financial Literacy	0.797
Social Influence	0.865
Perceived Enjoyment	0.867
Facilitating Conditions	0.690
M*Z	1.000

Source: Output of WarpPLS 8.0.

Composite Reliability

Table 4 presents the results of composite reliability. Table 4 demonstrates that the composite reliability for all variables exceeds 0.6. These results indicate that all constructs have adequate internal consistency.

Goodness-of-Fit Test

Table 5 presents the results of the goodness-of-fit (GoF) evaluation of the structural equation model generated by WarpPLS software version 8.0. Based on Table 5, the Average Path Coefficient (APC) value of 0.192 and *p*-value of 0.007 indicate a statistically significant relationship between the paths in the structural model, as the *p*-value is below 0.05. This means that the average path coefficient indicates that this model is structurally suitable. Moreover, the Adjusted *R*-Squared (ARS) value is 0.593 (*p*-value < 0.01), which is also statistically significant (*p*-value < 0.05), indicating that the model has sufficient ability to explain the variability of the dependent variable based on its independent variables. Furthermore, the Average Adjusted *R*-Squared (AARS) is 0.571 (*p*-value < 0.01); this value is significant (*p*-value < 0.05), indicating that, after adjusting for the number of predictors, the independent variables remain strong enough to explain the dependent variable.

According to Table 5, the Average Block Variance Inflation Factor (AVIF) value of 1.427 is within the acceptable range (less than 5), and ideally below 3.3. This means that multicollinearity among independent variables is not significant in the model. The Average Full Collinearity (AFVIF) value of 1.825 also indicates that there is no serious multicollinearity problem, as this value is below the accepted limit of 5 (ideally ≤ 3.3). Furthermore, the GoF value of 0.681 is categorised as large, with small values below 0.1, medium values between 0.1 and 0.25, and large values above 0.36. This indicates that the model has sufficient predictive power in explaining the dependent variable. A Simpson's Paradox Ratio (SPR) value of 0.833 indicates that there are no cases where Simpson's paradox occurs, meaning that all relationships in the model are in the theoretically expected direction. This value is within the ideal range of ≥ 0.7.

Table 5. Evaluation of Goodness-of-Fit in Structural Equation Models

Parameter	Coefficient	Rule of Thumb	Conclusion
Average Path Coefficient (APC)	0.192, $p = 0.007$	Acceptable $p < 0.05$	Accepted
Adjusted R-Squared (ARS)	0.593, $p < 0.010$	Acceptable $p < 0.05$	Accepted
Average Adjusted R-Squared (AARS)	0.571, $p < 0.010$	Acceptable $p < 0.05$	Accepted
Average Block VIF (AVIF)	1.427	Acceptable if ≤ 5, ideally ≤ 3.3	Accepted
Average Full Collinearity VIF (AFVIF)	1.825	Acceptable if ≤ 5, ideally ≤ 3.3	Accepted
Tenenhaus GoF (GoF)	0.681	small ≥ 0.1, medium ≥ 0.25, large ≥ 0.36	Accepted
Simpson's Paradox Ratio (SPR)	0.833	Acceptable if ≥ 0.7, ideally = 1	Accepted
R-Squared Contribution Ratio (RSCR)	0.982	Acceptable if ≥ 0.9, ideally = 1	Accepted
Statistical Suppression Ratio (SSR)	1.000	Acceptable if ≥ 0.7	Accepted
Nonlinear Bivariate Causality Direction Ratio (NLBCDR)	0.750	Acceptable if ≥ 0.7	Accepted

The *R*-Squared Contribution Ratio (RSCR) value of 0.982 is very close to the ideal value of 1, indicating that almost all the *R*-Squared contribution comes from the expected relationships, indicating a strong and reliable model. Moreover, the value of Statistical Suppression Ratio (SSR) is 1.00, which is higher than 0.7. In addition, the Nonlinear Bivariate Causality Direction Ratio (NLBCDR) value of 0.750, which exceeds 0.7, indicates that the direction of causality in this model's bivariate relationship is consistent with the theory's predictions.

Table 6 describes the estimated relationship across variables. According to Table 6, financial literacy has a positive and significant influence on cashless behaviour. The coefficient value is 0.20, which is significant at the 1% level ($p = 0.01$). Moreover, social influence also positively influences cashless behaviour, with a coefficient of 0.06. Nevertheless, this value is not significant. Similar to financial literacy, perceived enjoyment also has a positive and significant effect on cashless behaviour; the coefficient is 0.59 and is significant at the 1% level ($p = 0.01$). Comparing the coefficient values, perceived enjoyment ($\beta = 0.59$) is the most influential predictor of cashless behaviour, followed by financial literacy ($\beta = 0.20$), while social influence ($\beta = 0.06$) shows a weak, non-significant effect. This suggests that hedonic factors play a more prominent role than cognitive factors in driving cashless transaction adoption among batik MSMEs.

Table 6 also presents the role of facilitating conditions as a moderating variable. According to Table 6, facilitating conditions can only moderate the influence of perceived

Table 6. Estimated Relationship Across Variables

Description Path	Path Coefficient
Financial Literacy on Cashless Behaviour	0.20***
Social Influence on Cashless Behaviour	0.06
Perceived Enjoyment on Cashless Behaviour	0.59***
The Role of Facilitating Conditions as a Moderating Variable of Financial Literacy on Cashless Behaviour	0.09
The Role of Facilitating Conditions as a Moderating Variable of Social Influence on Cashless Behaviour	0.03
The Role of Facilitating Conditions as a Moderating Variable of Perceived Enjoyment on Cashless Behaviour	-0.19**

enjoyment on cashless behaviour; the coefficient is -0.19 and is significant at the 5% level ($p = 0.05$). This result also shows that facilitating conditions weaken the influence of perceived enjoyment on cashless behaviour. Meanwhile, facilitating conditions do not moderate the impact of financial literacy on cashless behaviour. Indeed, facilitating conditions do not moderate the relationship between social influence and cashless behaviour.

Discussion

The Influence of Financial Literacy on Cashless Behaviour

The SEM-PLS analysis shows that financial literacy has a positive and significant effect on cashless behaviour. This positive result is consistent with UTAUT. A high level of financial literacy improves MSMEs' understanding of the benefits and available support, thereby increasing their confidence and sense of security when using digital payment systems. Financial knowledge makes them more confident, better able to minimise risks, and ultimately more open to engaging in cashless behaviour. Moreover, this positive effect aligns with [3; 16–19], . The higher the financial knowledge, the greater the confidence in using cashless or non-cash transactions, for example, via QRIS [3] or digital wallets [19].

The Influence of Social Influence on Cashless Behaviour

The results of the SEM-PLS analysis also indicate that social influence has no significant effect on cashless behaviour. Social influence is not significant in shaping the cashless behaviour of batik MSMEs, as decisions to adopt it are more determined by operational needs, practical benefits, and infrastructure support than by trends or environmental pressures. This result is contrary to those obtained by [5; 6; 20]. The finding that social influence does not significantly affect cashless behaviour may be attributed to several factors. The financial literacy of batik MSMEs remains low, so the use of cashless behaviour is not yet optimal. Furthermore, most batik MSMEs in Indonesia are still accustomed to conventional cash transactions, which is slowing the transition to cashless behaviour.

The Influence of Perceived Enjoyment on Cashless Behaviour

Similar to financial literacy, perceived enjoyment also positively affects cashless behaviour. This result aligns with UTAUT. Perceived enjoyment plays a significant role in driving the adoption of digital payments among batik MSMEs in Indonesia. A pleasant experience with cashless behaviour encourages both consumers and businesses to adopt cashless payment systems, thereby accelerating the digitalisation of the batik sector. Furthermore, this positive impact is consistent with the findings of [9; 21; 22]. Perceived enjoyment, as manifested in emotional responses, can help MSME actors make decisions by guiding their feelings when choosing to use digital transactions [21]. The happier and more excited someone feels about using electronic money, the more motivated they are to use it as a means of payment for goods or services, as it is one of the cashless transaction forms [9].

The Role of Facilitating Conditions as a Moderating Variable of the Effect of Financial Literacy on Cashless Behaviour

The SEM-PLS analysis shows that facilitating conditions do not moderate the effect of financial literacy. Supporting facilities for cashless behaviour cannot strengthen or weaken the influence of financial literacy on cashless behaviour. This condition may occur due to the level of financial literacy. Although supporting facilities for cashless behaviour are available, if financial knowledge about their use is still low, the likelihood is that their availability will not increase or decrease the interest in cashless behaviour.

The Role of Facilitating Conditions as a Moderating Variable of the Effect of Social Influence on Cashless Behaviour

Support for cashless behaviour cannot strengthen or weaken the influence of social factors on cashless behaviour. This situation is likely due to batik MSMEs' cash-based practices. Generally, batik businesses in Indonesia are hereditary. This situation sometimes affects company management, especially its financial management, which remains conventional and reluctant to adapt to the evolution of current digital transactions. Therefore, the existence of supporting facilities for cashless behaviour does not have a role in the relationship between social influence and cashless behaviour.

The Role of Facilitating Conditions as a Moderating Variable of the Effect of Perceived Enjoyment on Cashless Behaviour

The analysis found that facilitating conditions weaken the effect of perceived enjoyment on cashless behaviour. In UTAUT, strong facilitating conditions make cashless adoption among batik MSMEs more dependent on functional aspects and system support, thereby reducing the influence of perceived enjoyment on user behaviour. This negative moderating effect suggests that when technological infrastructure is robust and reliable, users shift their focus from hedonic motivations to utilitarian benefits, aligning with the instrumental perspective of technology acceptance. In other words, when the facilitating conditions are in place, enjoyment is no longer the primary factor in determining digital payment usage.

Conclusion

The digital transformation of Indonesia's economy presents both opportunities and challenges for batik MSMEs, particularly in adopting cashless transaction systems. Technological developments have facilitated the emergence of cashless transactions, creating new imperatives for traditional businesses to adapt. Therefore, this study examines the influence of financial literacy, social influence, and perceived enjoyment on cashless transac-

tions among batik MSMEs in Indonesia. Moreover, the SEM-PLS analysis shows that financial literacy and perceived enjoyment have a significant positive influence, whereas social influence does not. Facilitating conditions as a moderating variable weaken the influence of perceived enjoyment on cashless transactions. Meanwhile, this moderating variable cannot moderate the effects of financial literacy and social influence on cashless transactions.

Specifically, two of the three main hypotheses were supported: H1 (financial literacy positively affects cashless behaviour) and H3 (perceived enjoyment positively affects cashless behaviour). In contrast, H2 (social influence positively affects cashless behaviour) was rejected. Regarding the moderation effects, only H6 (facilitating conditions moderate the impact of perceived enjoyment on cashless behaviour) was supported, whereas H4 and H5 were not supported.

This study contributes theoretically by introducing facilitating conditions as a moderating variable, thereby presenting a novel perspective in the literature. Facilitating conditions, such as infrastructure, regulations, and accessibility, have been shown to strengthen or weaken the influence of perceived enjoyment, financial literacy, and social influence on cashless behaviour. Thus, the literature is expanded by understanding that facilitating conditions act not only as direct predictors but also as interacting factors. This finding enriches the UTAUT framework by demonstrating that contextual factors play a more complex role than previously understood, particularly in traditional MSMEs in developing economies.

This research provides a practical contribution, incentivizing MSMEs, consumers, regulators, and financial service providers to accelerate the adoption of digital payments. By emphasising the importance of financial literacy, social influence, and enjoyment, and considering the moderating role of facilitating conditions, all stakeholders can design more effective strategies to support the creation of a cashless society. Specifically, policymakers should prioritise infrastructure development, educators should enhance financial literacy programmes tailored to MSMEs, and technology providers should focus on creating enjoyable user experiences while ensuring robust system reliability.

For batik MSME owners and managers, these findings suggest that enhancing financial literacy through training programmes and creating enjoyable user experiences should be prioritised. Additionally, collaboration with technology providers to ensure reliable infrastructure and user-friendly payment systems can facilitate smoother transitions to cashless operations. Government agencies and industry associations should work together to provide comprehensive support systems that address both the knowledge gaps and the infrastructural requirements necessary for successful cashless adoption.

This study focuses exclusively on batik MSMEs; therefore, further research can examine cashless transactions in other company sectors to enhance the generalisability of the findings. In addition, this study uses only financial literacy, social influence, and perceived enjoyment as variables influencing cashless transactions. In fact, other factors, such as perceived ease of use and perceived usefulness, can also influence cashless transactions. Furthermore, additional factors, such as financial technology capabilities and regulations governing non-cash transactions, can serve as moderator variables.

Furthermore, this study is limited by its geographical focus on Pekalongan, Central Java, and its cross-sectional design, which limits causal inferences. The reliance on self-reported data may also introduce response bias. Future research should employ longitudinal designs to capture temporal dynamics in cashless adoption patterns and to observe how facilitating conditions evolve. Additionally, future studies could employ mixed methods approaches to gain deeper insights into the barriers and enablers of cashless adoption. Comparative studies across different regions or countries could enhance the generalisability of the findings and reveal cultural or contextual factors that influence the relationships examined in this study. Expanding the sample to include larger enterprises or different industry sectors would also provide valuable insights into how firm size and industry characteristics affect the adoption of cashless behaviour.

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References

1. Indonesia Chamber of Commerce and Industry. Data dan Statistik UMKM. 2023. Accessed on 13.01.2026. URL: https://kadin.id/data-dan-statistik/umkm-indonesia/

2. Palupi A.A., Hartati T., Sofa N. Pengaruh Literasi Keuangan Dan Kemudahan Penggunaan Sistem Qris Terhadap Keputusan Bertransaksi Menggunakan Qris Pada UMKM. [The Influence of Financial Literacy and Ease of Use of the QRIS System on the Decision to Transact Using QRIS in MSMEs]. *Seminar Nasional Riset Terapan Andiminstrasi dan Bisnis Mice X*. 2022;10(1):67-75. (in Indonesian). Accessed on 13.01.2026. URL: https://www.scribd.com/document/754159499/3-Pengaruh-Literasi-Keuangan-Dan-Kemudahan-Penggunaan-Sistem-Qris-Terhadap-Keputusan-Bertransaksi-Menggunakan-Qris-Pada-Umkm

3. Agustian R.T., Wibisono D. Pengaruh Literasi Keuangan, Persepsi Manfaat, Motivasi Hedonis Dan Persepsi Risiko Terhadap Keputusan Penggunaan Pembayaran (Qris) [The Influence of Financial Literacy, Perceived Benefits, Hedonic Motivation, and Perceived Risk on Payment Usage Decisions]. *Jurnal Ekonomi dan Bisnis*. 2023;6(2):203–212. (in Indonesian) Accessed on 13.01.2026. URL: https://jurnal.murnisadar.ac.id/index.php?journal=EKBI&page=ar-

ticle&op=view&path%5B%5D=1091&path%5B%5D=563

4. Harahap R. Financial Literacy and Digital Financial Behavior of SMEs in Indonesia. *Proceeding Medan International Conference on Economic and Business*. 2023;1:2545–2553. Accessed on 13.01.2026. URL: https://proceeding.umsu.ac.id/index.php/Miceb/article/view/367

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

6. Rahadi R.A., Putri N.R.R., Soekarno S., et al. Analyzing cashless behavior among generation Z in Indonesia. *International Journal of Data and Network Science*. 2021;5(4):601–12. https://doi.org/10.5267/j.ijdns.2021.8.007

7. To A.T., Trinh T.H.M. Understanding behavioral intention to use mobile wallets in vietnam: Extending the tam model with trust and enjoyment. *Cogent Business & Management*. 2021;8(1):1891661. https://doi.org/10.1080/23311975.2021.1891661

8. Alfany Z., Saufi A., Mulyono L.E.H. The Impact of Social Influence, Self-Efficacy, Perceived Enjoyment, and Individual Mobility on Attitude toward use and Intention to use Mobile Payment of OVO. *Global Journal of Management and Business Research*. 2019;19(E7):1–8. Accessed on 13.01.2026. URL: https://journalofbusiness.org/index.php/GJMBR/article/view/2951

9. Sigar J.F. The influence of perceived usefulness, perceived ease of use and perceived enjoyment to intention to use electronic money in Manado. *Jurnal EMBA*. 2016;4(2):498–507. Accessed on 13.01.2026. URL: https://ejournal.unsrat.ac.id/index.php/emba/article/view/13083/12668

10. Abu Bakar A.R., Wan Muhd Rahimi W.N.A., Adilah Tarmazi S.A., et al. Malaysian Intention to Use e-Wallet: Forthcoming Expectation in Cashless Transactions. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*. 2022;7(6):e001537. Accessed on 13.01.2026. URL: https://www.researchgate.net/profile/Ahmad-Abu-Bakar-6/publication/361555898_Malaysian_Intention_to_Use_e-Wallet_Forthcoming_Expectation_in_Cashless_Transactions/links/65f1308532321b2cff6a0cbd/Malaysian-Intention-to-Use-e-Wallet-Forthcoming-Expectation-in-Cashless-Transactions.pdf?_tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmxpY2F0aW9uIiwicGFnZSI6InB1YmxpY2F0aW9uIn19

11. Sapian M.N., Ismail N.S. The Impact of Using Cashless Transactions Among Malaysian Consumers Towards Payment Systems Performance. *Research in Management of Technology and Business*. 2021;2(1):420–436. Accessed on 13.01.2026. URL: https://publisher.uthm.edu.my/periodicals/index.php/rmtb/article/view/1890

12. Dinda R., Alfarisy M.F., Rahim R. Analysis of Cashless Payment Adoption using the Unified Theory of Acceptance and Use of Technology (UTAUT). *Journal of Accounting and Finance Management*. 2024;5(3):508–516. https://doi.org/10.38035/jafm.v5i3.720

13. Kurniawan P., Jufri A., Hadiwibowo I., et al. Understanding Adoption Dynamics for Digital Wallets Among Batik MSMEs. *Journal of System and Management Sciences*. 2024;14(6):266–282. https://doi.org/10.33168/jsms.2024.0617

14. Yang M., Al Mamun A., Mohiuddin M., et al. Cashless transactions: A study on intention and adoption of e-wallets. *Sustainability*. 2021;13(2):831. https://doi.org/10.3390/su13020831

15. Citradika D.P., Atahau A.D.R., Satrio D. The use of non-cash transactions among Batik SMES: An empirical review from Indonesia. *International Journal of Business and Society*. 2019;20(1):397–416. Accessed on 13.01.2026. URL: https://www.ijbs.unimas.my/images/repository/pdf/Vol20-no1-paper25.pdf

16. Muttasari W.F., Lukiastuti F. Pengaruh Literasi Keuangan Dan Gaya Hidup Terhadap Cashless Transaction Behavior (Studi Pada Karyawan Sekretariat Daerah Kabupaten Blora) [The Influence of Financial Literacy and Lifestyle on Cashless Transaction Behavior (Study on Employees of the Region]. *Magisma: Jurnal Ilmiah Ekonomi dan Bisnis*. 2020;8(2):25–31. (in Indonesian). Accessed on 13.01.2026. URL: https://web.archive.org/web/20200908174024/http://jurnal.stiebankbpdjateng.ac.id/jurnal/index.php/magisma/article/download/93/108

17. Zaenudin A., Fahamsyah M.H. Peran Fintech, Inklusi Keuangan Dan Literasi Keuangan Terhadap Kinerja Dalam Kesiapan Dukung Cashless Society Sektor Usaha Mikro Kecil Menengah Kabupaten Bekasi [The Role of Fintech, Financial Inclusion and Financial Literacy on Performance in Readiness to Support a Cashless Society in the Micro, Small and Medium Enterprises Sector in Bekasi Regency]. *Jurnal Investasi*. 2023;9(2):66–72. (in Indonesian). https://doi.org/10.31943/investasi.v9i2.267

18. Sari R., Ruscitasari Z., Suhada S. Pengaruh Literasi Keuangan Dan Gaya Hidup Terhadap Cashless Transaction Behavior [The Influence of Financial Literacy and Lifestyle on Cashless Transaction Behavior]. *Valid: Jurnal Ilmiah*. 2022;20(1):78–87. (in Indonesian). https://doi.org/10.53512/valid.v20i1.264

19. Pangestika E.M., Achyani F. The Influence of Financial Literacy, Service Features, Ease of Use, and Financial Abilities on Interest in Using ShopeePay Digital Wallets in Financial Transactions (Case Study

on Accounting Students at Muhammadiyah University of Surakarta Class of 2018-2020). *American Journal of Sciences and Engineering Research*. 2022;5(4):114-126. Accessed on 13.01.2026. URL: https://www.iarjournals.com/upload/54114126.pdf

20. Bemby F.A.W., Qomariyah A. Does Financial Literacy Matter in Cashless Payment Usage? *Accounting and Finance Journal*. 2023;25(2):117–128. https://doi.org/10.9744/jak.25.2.117-128

21. Himaya D.N., Atahau A.D.R. Adopsi QRIS oleh UMKM dengan Menggunakan Theory of Interper-sonal Behavior [QRIS Adoption by MSMEs Using the Theory of Interpersonal Behavior]. *Jurnal Personalia, Financial, Operasional, Marketing dan Sistem Informasi*. 2022;29(2):125–139. (in Indonesian). Accessed on 13.01.2026. URL: https://jos.unsoed.ac.id/index.php/performance/article/download/6336/4744

22. Setiawati P.E., Inan D.I., Wurahrah R.N., et al. How The Perceived Enjoyment Effect M-Payment Adoption In West Papua Province: Delone And Mclean Information Systems Success Model. *Jurnal Ilmiah Penelitian dan Pembelajaran Informatika*. 2024;9(3):1494–505. https://doi.org/10.29100/jipi.v9i3.5738

23. Zed E.Z., Hanifah N.N., Fera C.Z., et al. Pengaruh Penggunaan Qris Sebagai Alat Pembayaran Digital Terhadap Perilaku Konsumen di Era Cashless Society [The Use of Qris as a Digital Payment Tool on Consumer Behavior in the Cashless Society Era]. *Jurnal Ilmu Manajemen dan Pendidikan*. 2025;02(02):615–620. (in Indonesian). https://jurnal.kopusindo.com/index.php/jimp/article/view/1005/932

24. Febriani N.K.D, Utami N.W., Putri I.G.P.D. Analisis Behavioral Intention dan Use Behavior Quick Response Code Indonesian Standard (QRIS) pada UMKM dengan Metode UTAUT 2 di Kota Denpasar [Analysis of Behavioral Intention and Use Behavior of Quick Response Code Indonesian Standard (QRIS) in MSMEs]. *Jurnal Ilmiah Informasi Asia*. 2023;17(1):67–82. (in Indonesian). Accessed on 13.01.2026. URL: https://www.semanticscholar.org/reader/d3eed04c7eb83bef2885ce23c0a20f32a2941039

25. Nurlaily F., Aini E.K., Asmoro P.S. Understanding The Fintech Continuance Intention Of Indonesian Users: The Moderating Effect Of Gender. *Business: Theory and Practice*. 2021;22(2):290–298. https://doi.org/10.3846/btp.2021.13880

26. Muchran M., Khairudin N.S., Arizah A., et al. Integration of the UTAUT 2 Model and Awareness of Cybercrime as the Moderating Variable of Cashless Adoption in Indonesia. *Review of Integrative Business and Economics Research*. 2023;13(3):304–321. Accessed on 13.01.2026. URL: https://buscompress.com/uploads/3/4/9/8/34980536/riber_13-3_21_s23-134_304-321.pdf

27. Abdallah W., Harraf A., Ghura H., et al. Financial literacy and small and medium enterprises performance : the moderating role of financial access. *Journal of Financial Reporting and Accounting*. 2024;23(4):1345–1364. https://doi.org/10.1108/JFRA-06-2024-0337

28. Peñarroja V., Sánchez J., Gamero N., et al. The influence of organisational facilitating conditions and technology acceptance factors on the effectiveness of virtual communities of practice. *Behaviour & Information Technology*. 2019;38(8):845–857. https://doi.org/10.1080/0144929X.2018.1564070

29. Setiawan P.Y., Atmaja N.P.C.D., Tirtayani I.G.A. Integrating Perceived Enjoyment within the UTAUT Model for Enhanced Distribution Management Strategies. *Journal of Distribution Science*. 2024;22(1):13–23. Accessed on 13.01.2026. URL: https://accesson.kr/jds/assets/pdf/51035/journal-22-1-13.pdf

30. Farida M.N., Soesatyo Y., Aji T.S. Influence of Financial Literacy and Use of Financial Technology on Financial Satisfaction through Financial Behavior. *International Journal of Education and Literacy Studies*. 2021;9(1):86–95. https://doi.org/10.7575/aiac.ijels.v.9n.1p.86

31. Siregar M.A., Pratiwi P.D. Pengaruh Literasi Keuangan Terhadap Perilaku Keuangan Generasi Z Dengan Gaya Hidup Sebagai Variabel Intervening [The Influence of Financial Literacy on the Financial Behavior of Generation Z with Lifestyle as an Intervening Variable]. *Jurnal Ilmiah Manajemen, Ekonomi, & Akuntansi (MEA)*. 2024;8(3):3068–3083. (in Indonesian). https://doi.org/10.31955/mea.v8i3.4862

32. Hamid R.S., Anwar S.M. *Structural Equation Modelling (SEM) Berbasis Varian (Konsep Dasar dan Aplikasi Program Smart PLS 3.2.8 dalam Riset Bisnis)*. 1st ed. Jakarta Pusat: PT Inkubator Penulis Indonesia (institut Penulis Indonesia); 2019.

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