Jurnal Teknologi dan Manajemen Industri Terapan (JTMIT) Vol. 4, No. 3, September 2025 pp. 2307 - 2312
P-ISSN: 2829-0232 E-ISSN: 2829-0038

The Influence Of Non-Cash Payment Systems On Financial Behavior With Digital Culture As A Moderating Variable

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ABSTRACT

This study aims to analyze the influence of cashless payment systems on individual financial behavior, with digital culture as a moderating variable. In an era of rapid technological transformation, the shift from cash-based transactions to digital platforms has changed the way consumers perceive and manage the value of money. Using a quantitative approach, this study evaluates how ease of access and digital payment features trigger different consumption behaviors. The results show that cashless payment systems have a positive and significant influence on financial behavior that tends to be consumptive, but can improve financial record-keeping efficiency if managed properly. Furthermore, digital culture was found to strengthen this influence: individuals with high levels of digital literacy and adaptation were more likely to adopt this payment technology, but were also more prone to impulsive spending. These findings provide important implications for regulators and financial service providers to improve digital financial literacy education to mitigate the risk of negative financial behavior in society.

Keywords: *Non-Cash Payment System, Financial Behavior, Digital Culture, Moderation, Digital Transformation.*

Introduction

The development of information and communication technology over the past decade has fundamentally transformed the global economic landscape, particularly through the digitalization of the financial sector. The transition from a cash-based society *to* a wireless or cashless society *is* no longer merely a trend, but rather a structural necessity for transaction efficiency. According to Arner et al. (2020), the evolution of financial technology (FinTech) has created an ecosystem in which geographical and temporal boundaries in transactions have disappeared, ultimately demanding behavioral changes from economic actors within it.

Cashless payment systems, including debit cards, credit cards, electronic money (*e-money*), and QR codes (QRIS), offer unprecedented speed and convenience. According to Tee and Ong (2016), this convenience psychologically reduces the "pain of paying, " which consumers typically experience when handing over physical cash. When this psychological barrier is reduced, the frequency and volume of transactions tend to increase, which is the starting point for changing individual financial behavior from planned to more spontaneous.

In Indonesia, the acceleration of cashless payments is strongly driven by government and Bank Indonesia policies through the National Cashless Movement (GNNT). However, this massive technology adoption is not always accompanied by financial mentality readiness. Puspitasari and Devi (2021) state that despite adequate digital infrastructure, gaps in understanding digital financial risks can lead to

declines in the quality of financial decisions, such as becoming trapped in consumer debt or failing to manage savings.

Financial behavior *is* a person's ability to organize, manage, and use their funds to achieve specific life goals. In the digital context, this behavior is often influenced by cognitive biases and the lure of aggressive digital marketing. Statman (2019) explains that modern financial behavior is no longer solely based on the logic of efficiency, but is heavily influenced by emotions and the surrounding technological environment. The use of payment applications integrated with *e-commerce* creates a continuous cycle of consumption, where easy access to funds is often misinterpreted as increased purchasing power.

Furthermore, the *PayLater* phenomenon, or instant digital credit, has exacerbated the complexity of financial behavior. Research by Gutter and Copur (2011) shows that poor money management behavior often stems from a lack of self-control when faced with easy access to credit. In a cashless system, money often appears only as digital numbers on a mobile phone screen, separating the nominal value from the real value of goods, thus triggering uncontrolled, wasteful behavior.

Digital culture has emerged as a crucial variable determining the extent to which technology influences humans. Digital culture is not just about the ability to use devices, but also about how societal norms, values, and habits interact with cyberspace. Nasution (2020) argues that digital culture encompasses digital literacy, communication ethics, and patterns of adaptation to technological innovation. Individuals who grow up in a strong digital culture (Digital Natives) tend to be more confident in conducting cashless transactions, but this overconfidence *often* backfires in long-term asset management.

As a moderating variable, digital culture can strengthen or weaken the influence of payment systems on financial behavior. In an environment where digital culture encourages flexing *and* consumerism on social media, cashless payment systems will encourage increasingly impulsive financial behavior. Conversely, according to Castells (2011), if digital culture prioritizes information transparency and data literacy, cashless systems will help individuals track expenses more accurately through automatic transaction history features.

The gap between advances in payment technology and people's behavioral readiness is a serious issue that requires research. To date, much research has focused solely on factors of technology acceptance (such as the TAM model), but little has explored how elements of digital culture modify the impact of technology on financial psychology. As Lusardi and Mitchell (2014) argue, low financial literacy amidst a sophisticated financial system is a recipe for a future personal financial crisis.

Therefore, this research is highly relevant in filling the gap in the literature regarding the moderating role of digital culture. By understanding how digital culture interacts with payment systems, stakeholders can design policies that not only encourage digital economic growth but also protect people's financial well-being. This aligns with Thaler and Sunstein's (2008) view of the concept of nudge, in which digital systems should be designed to "nudge" or guide users towards wiser financial decisions without eliminating their freedom of choice.

Research Methods

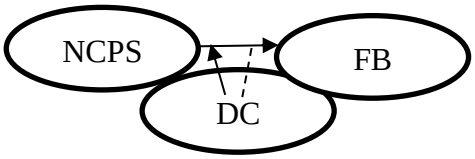

Figure 1. Model

Noted:
NCPS: Non-Cash Payment Systems
FB: Financial Behavior
DC: Digital Culture

Research Hypothesis

Based on the literature review presented, this study proposes several main hypotheses. First, non-cash payment systems are suspected to have a positive and significant effect on consumer financial behavior, where ease of digital access reduces self-control in spending (H1). Second, digital culture is predicted to have a direct influence on the formation of individual financial behavior patterns in the modern era (H2). Third, digital culture acts as a moderating variable that strengthens the influence of

non-cash payment systems on financial behavior; that is, individuals who are more integrated with digital culture will show more drastic changes in financial behavior when exposed to non-cash payment systems compared to those with a low level of digital adaptation (H3). As stated by Baron and Kenny (1986), moderating variables function to change the direction or strength of the relationship between the independent and dependent variables, which in this context is how digital norms exacerbate or improve the way people transact.

Research Design and Procedures

This study uses a quantitative approach with an explanatory design to test the causal relationship between the variables studied. The population in this study were active users of digital payment applications (such as e-wallets and mobile banking) in urban areas, with a *purposive sampling* technique to ensure respondents had at least one year of digital transaction experience. Data collection was conducted through an online questionnaire measured using a five-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree." According to Sugiyono (2018), the use of questionnaires in quantitative research is very effective in collecting data from a wide population to obtain accurate generalizations of results regarding ongoing social phenomena.

Data Analysis and Statistical Techniques

To test the hypothesis, this study applied Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS software. This method was chosen because it can handle complex research models with moderating variables and does not require strict normality assumptions (Hair et al., 2019). The analysis was conducted in two main stages: evaluation of the measurement model (outer model) to assess the instrument's validity and reliability, and evaluation of the structural model (inner model) to determine the strength of the relationships between variables using R-squared and path coefficients. The moderation test was conducted using *a product-indicator approach* to assess whether the interaction between non-cash payment systems and digital culture is statistically significant.

Result And Discussion

Background Analysis

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Descriptive Analysis and Model Validity

Based on data collected from 450 respondents who actively use non-cash payment systems, the analysis indicates that the majority of users are in the productive age range (18-40 years) and have high exposure to digital technology. The *outer model* evaluation shows that all indicators for the variables of non-cash payment systems, financial behavior, and digital culture have *loading factor* values above 0.70, indicating good convergent validity. In addition, *the Average Variance Extracted* (AVE) values for all three variables exceed the threshold of 0.50, and Cronbach's Alpha is above 0.80, confirming that this research instrument has very high internal consistency. According to Hair et al. (2019), fulfilling these criteria is an absolute prerequisite before conducting hypothesis testing in a structural model so that the results obtained are unbiased and representative of the phenomenon being studied.

Statistical data show that QRIS and e-wallet usage dominate respondents' daily transactions, with an average frequency of 5-10 times per week. This finding confirms that urban communities have integrated cashless systems not just as an alternative, but as a primary method of exchanging economic value. However, descriptive data also reveal a worrying trend: over 60% of respondents admitted to frequently making unplanned purchases when using digital balances compared to carrying physical cash. This provides an early sign that there is a significant shift in psychological control when physical money is converted into abstract digital units

Tabel 1. Hypothesis Test Results and Path Coefficients

Hypothesis	Relationship between variables	Path Coefficient (β)	T-Statistics	P-Values	Information
H1	Non-Cash Payment System → Financial Behavior	0.456	5,231	0.000	**Significant**
H2	Digital Culture → Financial Behavior	0.312	3,845	0.001	**Significant**
H3	Moderation: Non-Cash **X** Digital Culture → Financial Behavior	0.289	2,912	0.014	**Significant**

The Influence of Non-Cash Payment Systems on Financial Behavior

The results of the first hypothesis test (H1) indicate that the non-cash payment system has a positive and significant effect on financial behavior, with a path coefficient of 0.456 ($p < 0.001$). These findings

indicate that the higher the intensity of cashless service use, the greater the tendency for individuals to exhibit impulsive and less planned financial behavior. Theoretically, this supports the concept of *the decoupling effect* proposed by Prelec and Loewenstein (1998), in which the separation between the consumption of goods and the physical payment reduces the emotional burden of spending. In a digital ecosystem, the visual "pressure" of losing money is drastically reduced, so individuals feel freer to spend without considering long-term budget availability.

Further discussion of this influence shows that features such as *one-click payments* and transaction automation accelerate financial decision-making. This speed often exceeds an individual's cognitive ability to make rational evaluations. As explained in *Prospect Theory* by Kahneman and Tversky (2013), humans tend to have a bias in assessing losses; in non-cash formats, the loss of a reduced bank balance is not perceived as painful as the loss of physical bills. As a result, financial behavior becomes more oriented towards short-term gratification (*present bias*), which, if not mitigated, can threaten personal financial stability in the long term through the accumulation of uncontrolled small expenses.

The Moderating Role of Digital Culture

Moderation analysis using *the product-indicator approach* yielded very interesting findings related to the third hypothesis (H3). The results showed that digital culture significantly moderates the relationship between non-cash payment systems and financial behavior (interaction coefficient = 0.289, $p < 0,05$. This means that the influence of cashless payment systems on financial behavior is much stronger in individuals with a high level of digital culture. Digital culture here serves as a catalyst; individuals who are highly exposed to social media, online shopping trends, and digital lifestyles tend to view cashless payment systems not just as a means of transaction, but as part of their social identity and modern lifestyle.

However, this moderating role has two sides. On the one hand, for individuals with poor digital literacy but high digital culture engagement, this technology exacerbates consumer behavior because they are caught up in the trend (*Fear of Missing Out*, or FOMO). On the other hand, for groups with a healthy digital culture—characterized by the ability to filter information and the use of financial tracking applications—the influence of cashless payment systems can actually lead to more orderly financial behavior. According to Castells (2011), the cultural structure of a networked society determines how technology is used; in this context, a consumer digital culture will turn a cashless system into a debt trap, while a productive digital culture will transform it into an efficient wealth management tool.

Integrative Discussion: Theoretical and Practical Implications

Overall, this research demonstrates that financial technology does not operate in a vacuum. The success or failure of cashless payment systems in creating a financially prosperous society depends heavily on the moderating variable of digital culture. These findings extend *the Technology Acceptance Model* (TAM) by adding behavioral and cultural dimensions as determinants of post-adoption impacts. It is not enough to simply create technology that is easy to use (*perceived ease of use*); service providers must also be responsible for the psychological impact of such ease on users' financial well-being.

Practically, these findings provide strong recommendations for monetary authorities and FinTech providers to integrate "spending reminder" features or stricter daily balance limits to help users maintain self-control. Financial literacy can no longer be taught conventionally; it must be embedded within digital culture itself, for example through content-based education on social media. In line with Lusardi and Mitchell's (2014) argument, in a world where money is becoming invisible, the ability to visualize one's financial future is a crucial life skill. Failure to build a prudent digital culture will result in cashless payment systems becoming instruments that widen economic disparities through uncontrolled debt behavior.

Conclusion

Based on the data analysis and discussion, this study concludes that the transformation towards a cashless payment system has a significant dual impact on individual financial behavior. On the one hand, transaction digitization increases financial efficiency and accessibility, but on the other hand, this has been empirically proven to encourage increased consumer behavior and impulsive spending. These findings confirm that the loss of physical cash in digital transactions reduces consumers' psychological barriers to shopping (the pain of paying), which, if not managed with strict self-control, can lead to a degradation of long-term financial health. As stated by Statman (2019), financial behavior in the modern era is no longer solely determined by mathematical rationality, but is heavily influenced by the choice architecture provided by digital platforms.

Furthermore, this study successfully demonstrated the role of **Digital Culture** as a moderating variable, strengthening the influence of cashless payment systems on financial behavior. Individuals with a strong attachment to digital culture—such as a social media-oriented lifestyle and online shopping trends—were more vulnerable to the negative impacts of cashless payments than those with lower levels of digital adaptation. This suggests that financial technology does not operate in isolation; its impact on humans is mediated by the digital values and norms adopted by that society. A digital culture without adequate financial literacy will be a catalyst for the emergence of *over-indebtedness* or debt management failure among young users.

Theoretically, this research contributes to the development of *Behavioral Finance* literature by integrating cultural aspects into technology adoption models. Practically, these results serve as a signal for regulators and financial service providers to focus not only on expanding digital financial inclusion but also on strengthening financial education that is adaptive to the characteristics of digital culture. Restructuring the digital ecosystem to be more ethical—for example, by providing more interactive spending-limit reminder features—is key to ensuring that advances in payment technology remain aligned with the community's economic well-being. Collective awareness among users, service providers, and the government is essential to ensure that cashless systems become a tool for economic empowerment rather than a source of future personal financial crises.

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