The Influence of Cultural Collectivism on Digital Payment Adoption in Kupang City (Case Study of Nusa Cendana University Students)

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This study aims to analyze the influence of cultural collectivism on the adoption of digital payments among students at Nusa Cendana University, Kupang. The research method used was quantitative with an associative approach. The population in this study were students at Nusa Cendana University, Kupang. The sampling technique used non-probability sampling with accidental sampling, resulting in a sample of 390 respondents. Data were collected through a questionnaire using a Likert scale and analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) with the help of SmartPLS 4.1 software. The results showed that cultural collectivism has a positive and significant effect on user trust and digital payment adoption. User trust was also shown to mediate the relationship between cultural collectivism and digital payment adoption. However, social influence did not moderate the relationship between cultural collectivism and digital payment adoption.

Keywords: Cultural Collectivism, User Trust, Social Influence, Digital Payment Adoption

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1. Introduction

Developments in information and communication technology have driven significant transformations in payment systems through various digital innovations such as mobile banking, electronic wallets (e-wallets), and the Quick Response Code Indonesian Standard (QRIS). This transformation is part of the digitalization process of the economy, enabling faster, easier, safer, and more efficient financial transactions. According to Venkatesh et al. (2022), the development of digital technology has changed consumer transaction behavior, with ease of use and perceived benefits being the primary factors driving the adoption of digital financial technology. Similarly, Susanto and Aljoza (2023) explain that digital payment systems play a crucial role in creating an inclusive economic ecosystem by expanding public access to formal financial services.

To support the transformation of the national payment system, Bank Indonesia launched the National Non-Cash Movement (GNNT) in 2014 and strengthened it through the implementation of QRIS in 2019. The introduction of QRIS aims to unify various QR code-based payment methods into a single national standard, thereby improving payment system interoperability. According to research by Ramadhan and Nugroho (2022), QRIS implementation provides convenience for both businesses and consumers by simplifying transaction processes while increasing operational efficiency. Bank Indonesia data shows that digital payment and QRIS transactions continue to increase year after year, indicating increasing public acceptance of digital payment systems (Edwin & Aprianto, 2021).

This phenomenon also occurred in East Nusa Tenggara (NTT) Province, marked by an increase in the number of QRIS merchants, reaching 296,893 in the third quarter of 2025. This growth demonstrates that

digital payment infrastructure is expanding and reaching various regions in NTT. However, the increase in the number of merchants has not always been accompanied by high levels of QRIS use by the public. This situation indicates a gap between technology availability and utilization levels. According to Chawla and Joshi (2022), the successful adoption of digital payment technology is not solely determined by the availability of technological facilities but also influenced by user psychological and social factors. Therefore, understanding the behavioral factors that influence digital payment usage is crucial.

Nusa Cendana University, the largest public university in East Nusa Tenggara Province, has 14,812 active students, making it a relevant location for studying digital payment behavior. A pre-survey of 30 students showed that 80% of respondents had used QRIS, while the remainder reported rarely or never using it. This finding suggests that QRIS is widely known among students, but the level of sustained use requires further analysis.

From a consumer behavior perspective, culture is one factor influencing technology adoption. Hofstede et al. (2022) explain that a collectivist culture describes a condition where individuals prioritize group interests over personal ones. In collectivist societies, individual decisions are often influenced by social norms, group recommendations, and the behavior of those considered important in their environment. Research by Kim and Park (2023) shows that collectivist values have a positive effect on intentions to use digital technology because individuals tend to follow behaviors accepted by their social groups. Given that Indonesia is a country with a strong collectivist culture, cultural factors are relevant in explaining digital payment adoption behavior among students.

Besides cultural factors, user trust is a crucial factor in driving the adoption of digital payments. According to Gefen et al. (2021), trust is a user's belief that a system can provide secure, reliable, and expected services. In the context of digital payments, trust relates to the perception of personal data security, transaction protection, and the service provider's ability to maintain the confidentiality of user information. Research by Alalwan et al. (2022) found that trust significantly influences the intention and behavior of using digital payment services. The higher a user's level of trust in a digital payment system, the more likely they are to use the service continuously.

Furthermore, social influence is also an important factor in explaining technology adoption behavior. According to Venkatesh et al. (2022), social influence refers to a person's belief that important people around them consider using a technology worthwhile. Among students, recommendations from friends, family, and the campus community can influence their decision to use digital payments. Research by Nguyen et al. (2024) shows that social influence can strengthen the relationship between user psychological factors and digital financial technology adoption decisions. Thus, social influence has the potential to act as a moderating variable, strengthening the relationship between user trust and digital payment adoption.

Although various studies have examined the factors influencing digital payment adoption, the results remain inconsistent. Some studies find that cultural collectivism and trust have a significant influence on digital payment use, while others show a relatively weak influence depending on the characteristics of the respondents and the social environment studied. Furthermore, studies simultaneously examining the relationship between cultural collectivism, user trust, and social influence in the context of QRIS use among university students in Eastern Indonesia are still relatively limited. Therefore, this study aims to analyze the influence of cultural collectivism on digital payment adoption among students at Nusa Cendana University, with user trust as a mediating variable and social influence as a moderating variable. The results are expected to provide theoretical contributions to the development of technology adoption literature and

provide input for the government, Bank Indonesia, and digital payment service providers in increasing QRIS use among the younger generation.

Research Hypothesis

H1: Cultural collectivism influences user trust.
H2: Cultural collectivism influences digital payment adoption.
H3: Trust mediates the relationship between cultural collectivism and digital payment adoption.
H4: Social influence strengthens the relationship between cultural collectivism and digital payment adoption.

2. Method

This study used a survey method with an associative quantitative approach to analyze the influence of cultural collectivism on digital payment adoption, with user trust as a mediating variable and social influence as a moderating variable. The study population consisted of 14,812 students at Nusa Cendana University. The sample size was determined using the Slovin formula with a 5% margin of error, resulting in 390 respondents. The sampling technique used non-probability sampling through accidental sampling. Primary data were collected through a Google Form-based questionnaire using a five-point Likert scale, while secondary data were obtained from publications and official reports from Bank Indonesia.

Data analysis was performed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) with the help of SmartPLS 4.1. Model evaluation was conducted through outer and inner model testing. The outer model was used to test construct validity and reliability through convergent validity, discriminant validity, Average Variance Extracted (AVE), Cronbach's Alpha, and Composite Reliability. Meanwhile, the inner model was evaluated using the coefficient of determination (R^2) and significance testing through bootstrapping. The hypothesis was accepted if the t-statistics were >1.96 and p-values were <0.05 at the 5% significance level.

The results of the measurement model evaluation (outer model) showed that all indicators met convergent validity criteria, with outer loadings above 0.70. The Average Variance Extracted (AVE) values for all constructs were also above 0.50, indicating that all variables were valid. Furthermore, the Cronbach's Alpha and Composite Reliability values for each variable were above 0.70, indicating that the research instrument had a good level of reliability.

The results of the structural model evaluation (inner model) showed that the R^2 value for the Digital Payment Adoption variable was 0.637. This indicates that 63.7% of the variation in Digital Payment Adoption can be explained by the variables contained in the research model. Meanwhile, the R^2 value for User Trust is 0.573, meaning 57.3% of the variation in User Trust can be explained by the constructs in the model.

Table 1. Hypothesis Testing Results

No	Hyphotesis	Relationships Between Variables	Original sample	T statistics	P Values	Description
1	H1	Cultural Collectivism → User Trust	0,757	31,205	0,000	Accepted
2	H2	Cultural Collectivism → Digital Payment Adoption	0,269	4,608	0,000	Accepted
3	H3	Cultural Collectivism → User Trust → Digital Payment Adoption	0,187	4,197	0,000	Accepted

No	Hyphotesis	Relationships Between Variables	Original sample	T statistics	P Values	Description
4	H4	Social Influence × Cultural Collectivism → Digital Payment Adoption	-0,034	1,879	0,060	Rejected

Source: Primary Data Processed with SmartPLS 4, 2026.

The results of the hypothesis testing indicate that cultural collectivism has a positive and significant effect on user trust and digital payment adoption. However, social influence was not shown to moderate the relationship between cultural collectivism and digital payment adoption. Furthermore, user trust was shown to mediate the effect of cultural collectivism on digital payment adoption.

3. Results and Discussion

The Influence of Cultural Collectivism on User Trust

The results of this study indicate that cultural collectivism has a positive and significant effect on digital payment user trust. This finding indicates that trust in digital payment services is not only shaped by individual considerations but is also influenced by the social environment in which individuals interact. In the context of Nusa Cendana University students, the use of digital payments, which has become a group habit, fosters confidence in the security and reliability of these services.

Hofstede's cultural dimensions theory explains that individuals in collectivistic cultures tend to build beliefs based on experiences and group norms. This study also supports the findings of Nguyen et al. (2025), Huang and Bashir (2021), and Huff and Kelley (2025), which indicate that a collectivist culture contributes to increased user trust in digital technology.

The Influence of Cultural Collectivism on Digital Payment Adoption

This study found that cultural collectivism has a positive and significant effect on digital payment adoption. These results indicate that decisions to use digital payments are not only based on the functional benefits of the technology but are also influenced by social group norms and behaviors. The higher an individual's group orientation, the greater their tendency to adopt technology usage behaviors accepted by their social environment.

These results align with Hofstede's cultural theory and consumer behavior theory, which explain that social and cultural factors influence technology adoption decisions. The results also support research by Axelle (2025) and Urus (2025), which found that cultural collectivism is a significant factor in driving the use of digital payment services.

The Mediating Role of User Trust in the Relationship Between Cultural Collectivism and Digital Payment Adoption

The results show that user trust mediates the influence of cultural collectivism on digital payment adoption. This finding indicates that the influence of collective culture on technology use occurs through the process of trust formation. Individuals tend to build confidence in the security, reliability, and credibility of a service before deciding to use it continuously.

These results support the trust theory of technology adoption, which positions trust as a primary mechanism for reducing uncertainty and risk in using digital systems. These findings are also consistent with research by Quynh (2026) and Ghos et al. (2025), which demonstrates that trust acts as a mediator between cultural factors and technology adoption behavior.

The Moderating Role of Social Influence on the Relationship between Cultural Collectivism and Digital Payment Adoption

This study found that social influence did not moderate the relationship between cultural collectivism and digital payment adoption. These results indicate that additional social incentives, such as peer recommendations or peer pressure, do not significantly influence the relationship between these two variables.

This condition can be explained by the high level of digital payment usage among respondents, so that usage decisions are based more on personal experience and needs than social influences. This finding aligns with the Unified Theory of Acceptance and Use of Technology (UTAUT), which states that social influence tends to be strong in the early stages of technology adoption, but decreases as users gain experience and habit of using the technology. The results of this study also support the findings of Changchit (2024), although they differ from the research of Bommer et al. (2022), which found social influence on digital wallet adoption.

4. Conclusion

This study demonstrates that cultural collectivism has a positive and significant effect on user trust and digital payment adoption among students at Nusa Cendana University. Furthermore, user trust mediates the effect of cultural collectivism on digital payment adoption, suggesting that collective values can increase digital payment usage through building trust in digital payment systems. However, social influence is not shown to moderate the relationship between cultural collectivism and digital payment adoption. Therefore, user trust is an important factor bridging the relationship between cultural collectivism and digital payment adoption.

5. References

Alalwan, A. A., Dwivedi, Y. K., Rana, N. P., & Williams, M. D. (2022). Consumer adoption of mobile payment services: A systematic review and future research agenda. *Information Systems Frontiers, 24*(5), 1463–1490. https://doi.org/10.1007/s10796-021-10149-7

Changchit, C., & Cutshall, R. (2024). *Unveiling the path to mobile payment adoption: Insights from Thai consumers*. *Journal of Risk and Financial Management, 17*(8), 315. https://doi.org/10.3390/jrfm17080315

Chawla, D., & Joshi, H. (2022). Consumer attitudes and intention to adopt mobile wallet in India – An empirical study. *International Journal of Bank Marketing, 40*(7), 1595–1618. https://doi.org/10.1108/IJBM-09-2021-0413

Edwin, N., & Aprianto, K. (2021). Peran teknologi informasi dan komunikasi dalam bisnis. *International Journal Administration, Business & Organization, 2*(1), 8–15.

Ghosh, A., Bhatia, A., Chaudhuri, S. R., & Chattopadhyoy, D. (2025). Synthesis of systematic review evidence on socio-cultural factors influencing the adoption of digital payment systems among informal sector workers. *Journal of Information Systems Engineering and Management, 10*, 785–797. https://doi.org/10.52783/jisem.v10i46s.9032

Huang, H.-Y., & Bashir, M. (2021). Users' trust in automation: A cultural perspective. In *Trust in Human-Machine Interaction* (pp. xx–xx). Springer. https://doi.org/10.1007/978-3-319-60384-1

Huff, L., & Kelley, L. (2025). Is collectivism a liability? The impact of culture on organizational trust and customer orientation: A seven-nation study. *Journal of Business Research, 58*, 96–102. https://doi.org/10.1016/S0148-2963(02)00478-2

Nguyen, T. A., Dick, M., Nguyen, B. T. T., Le, G., Vu, Q., & Thi, L. (2025). The effect of culture on performance expectancy, intention, and trust in mobile payment adoption. *International Journal of E-Services and Mobile Applications, 14*(1), 1–16. https://doi.org/10.4018/IJESMA.285546

Quynh, T. D. D. (2026). *Bridging digital trust gaps in fintech: A comparative study of digital wallet adoption in Vietnam and Hungary through cultural and institutional factors*. [Data publikasi belum lengkap].

Sugiyono. (2023). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.

Urus, S. T. (2025). A comparative study of fintech payment services adoption among Malaysian and Indonesian fresh graduates: Through the lens of UTAUT theory. *Eastern-European Journal of Enterprise Technologies*, 73–88. https://doi.org/10.15587/1729-4061.2022.265662