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Research on the Relationship between Mobile Payment Adoption and Employment and Revenue Performance in the Retail Industry of Zhejiang Province

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Abstract

This study examines the predictive relationship between mobile payment adoption and key business outcomes—employment generation and revenue performance—within the retail industry of Zhejiang Province. Grounded in the concept of technology adoption and its economic implications, the study utilizes a descriptive-correlational quantitative design to analyze how indicators such as adoption rate, transaction frequency, and merchant satisfaction influence job creation, revenue growth, and customer retention. Data were collected from 200 retail businesses across multiple sectors using a structured questionnaire validated for reliability and analyzed through descriptive statistics, Pearson correlation, and regression analysis via SPSS. Findings reveal a high level of mobile payment adoption, with widespread use of platforms such as Alipay and WeChat Pay, consistent transaction frequency, and generally positive merchant satisfaction driven by efficiency, convenience, and cost-effectiveness. Despite these advantages, challenges related to employment restructuring and revenue dynamics were identified as serious. Statistical analysis confirms a strong positive relationship between mobile payment adoption and business outcomes ($r = 0.658$, $p = 0.000$), indicating that increased adoption significantly contributes to job creation, revenue growth, and enhanced customer retention. The study concludes that mobile payment systems are critical drivers of economic and organizational performance in the retail sector, although continuous improvements in infrastructure and implementation are necessary. The study aligns with SDG 8 (Decent Work and Economic Growth) and SDG 9 (Industry, Innovation and Infrastructure), as it highlights the role of digital payment systems in fostering employment and supporting technological advancement. Its sustainability impact lies in promoting socio-economic and technological sustainability by enhancing business efficiency, supporting inclusive growth, and informing policy and innovation strategies in retail digital transformation.

Keywords: Adoption Rate; Customer Retention; Employment Generation; Merchant Satisfaction; Mobile Payment Systems; Revenue Performance; Transaction Frequency

1. Introduction

The rapid expansion of digital payment systems has significantly transformed retail operations, influencing both economic performance and organizational structures (Zaidi et al., 2023; Zhang, 2022). However, there remains a need for comprehensive analysis of how mobile payment adoption predicts key business outcomes, particularly employment dynamics and revenue performance (Baldwin & Van Exel, 2023). This study addresses this gap by examining the predictive relationship between payment model integration, employment generation, and revenue metrics within the Zhejiang retail industry. By analyzing indicators such as adoption rate, transaction frequency, and merchant satisfaction, the research aims to generate evidence-based insights that inform decision-making among businesses, policymakers, and stakeholders.

1.1 Background on Mobile Payment Adoption, Employment Dynamics, and Revenue Performance in Zhejiang Retail Industry

The integration of digital payment technologies has reshaped retail environments, offering increased efficiency, improved transaction processes, and enhanced customer experiences (Liu & Wang, 2022; Wang & Kim, 2022). Despite these advantages, the broader economic implications—particularly in terms of employment generation and revenue performance—remain insufficiently explored. This study focuses on Zhejiang Province, where mobile payment adoption is prominent, to evaluate how technological integration influences job creation, revenue growth, and customer retention. Understanding these dynamics is essential for assessing the role of digital payment systems in supporting business performance and economic stability.

1.2 Themes on Mobile Payment Adoption Indicators and Retail Business Outcomes

Existing literature emphasizes the transformative potential of mobile payment systems in improving operational efficiency and customer engagement (Purohit et al., 2022; Meng, 2022). Key themes include the relationship between adoption rate

and transaction frequency, the influence of merchant satisfaction on system sustainability, and the role of digital payments in shaping employment structures and revenue outcomes (Baldwin & Van Exel, 2023; Go et al., 2025). These studies collectively suggest that mobile payment adoption is not only a technological advancement but also a driver of economic and organizational change, particularly in retail settings.

1.3 Local, National, and Global Context of Mobile Payment Adoption and Retail Economic Outcomes

Globally, digital payment adoption has accelerated due to technological innovation and increasing consumer demand for convenience (Zaidi et al., 2023). Nationally and locally, Zhejiang Province represents a highly active environment for mobile payment usage, making it a relevant context for examining the interplay between technology adoption and economic indicators. The region's retail sector provides a practical setting for assessing how digital payment systems influence employment patterns and revenue performance in a rapidly digitizing economy.

1.4 Conceptual Basis of Mobile Payment Adoption Effects on Employment and Revenue Metrics

This study is grounded in the concept of technology adoption and its economic implications, particularly within the retail sector (Liu & Wang, 2022). It considers mobile payment adoption as a key independent variable influencing employment generation and revenue performance. The framework integrates dimensions such as job creation rate, revenue growth rate, and customer retention, positioning them as measurable outcomes of digital payment integration. This conceptual approach enables the analysis of predictive relationships between technological adoption and business performance indicators.

1.5 Research Gaps on Predictive Relationships Between Mobile Payment Adoption, Employment, and Revenue

While prior studies highlight the benefits of digital payments, there is limited empirical research examining their predictive impact on employment and revenue simultaneously (Baldwin & Van Exel, 2023; Go et al., 2025). Additionally, challenges encountered during mobile payment adoption—such as barriers affecting job creation, revenue growth, and customer retention—remain underexplored. This study addresses these gaps by analyzing both the outcomes and the challenges of mobile payment integration, and by proposing an inclusive model that consolidates empirical findings to guide strategic implementation in the retail sector.

1.6 Alignment with Sustainable Development Goals on Economic Growth and Innovation Through Digital Payments

This study aligns with SDG 8 – Decent Work and Economic Growth, as it examines employment generation and revenue performance within the retail sector. It also supports SDG 9 – Industry, Innovation and Infrastructure, given its focus on technological integration through mobile payment systems. By analyzing how digital innovation influences economic outcomes, the research contributes to understanding sustainable economic development driven by technology.

1.7 Importance to Socio-Economic, Technological, and Policy Sustainability in Retail Digital Transformation

The study contributes to socio-economic sustainability by exploring how mobile payment adoption affects employment opportunities and business growth. It also supports technological sustainability by evaluating the long-term integration of digital payment systems in retail operations. Additionally, the research has implications for policy and governance sustainability, as its findings can inform strategies that promote inclusive growth and effective technological adoption. Overall, the study provides a multidisciplinary perspective on how digital innovation can enhance economic resilience and sustainability in the retail sector.

2. Material and methods

2.1 Research Design

The study utilizes a descriptive-correlational quantitative research design to analyze the relationship between the degree of mobile payment adoption and its impact on employment and revenues (Xing, 2021). This design allows for the systematic collection, description, and analysis of quantitative data without manipulating variables. It is appropriate for determining the strength and direction of relationships among variables, supporting the development of evidence-based conclusions and recommendations.

2.2 Locale of the Study

The research is conducted in Zhejiang Province, focusing on the retail industry where mobile payment adoption is widely practiced. The region provides a suitable environment for examining the interaction between technological adoption and economic outcomes, particularly in terms of employment generation and revenue performance.

2.3 Respondents of the Study

The respondents consist of retail businesses in Zhejiang Province that have adopted mobile payment systems. These include enterprises from clothing and accessories, food and beverages, health and beauty products, and home and furniture, electronics, books, and sports sectors. Most businesses have operated between five and ten years, while others represent

newly established or mature enterprises. In terms of digital experience, the majority have used mobile payment systems for at least five years, indicating a relatively experienced respondent group.

2.4 Sample and Sampling Procedure

A total of 200 retail businesses are selected using a probability random sampling technique to ensure equal representation. The sample includes fifty respondents from each major retail category. The sample size is determined using the Raosoft calculator, considering confidence level, margin of error, and expected response rate. Stratification is applied based on geographic location, type of business, and years of operation to ensure representativeness across different segments of the retail industry.

2.5 Research Instrument

The study uses a structured questionnaire to measure mobile payment adoption and its effects on retail performance. The instrument assesses adoption rate, merchant satisfaction, and transaction frequency, as well as employment and revenue outcomes such as job creation, revenue growth, and customer retention. A four-point Likert scale is used to evaluate responses, ranging from strong disagreement to strong agreement, corresponding to varying levels of seriousness. The indicators describe the extent to which mobile payment systems are integrated into retail operations, their influence on transaction processes, and their effects on employment patterns, financial performance, and customer behavior. To ensure validity and reliability, the instrument undergoes expert validation for content and construct accuracy. A pilot test is conducted with a small group of respondents, and reliability is assessed using Cronbach's alpha, with a threshold of 0.70 indicating acceptable internal consistency.

2.6 Data Gathering Procedure

The data gathering process includes validation and pre-testing of the questionnaire to ensure clarity and reliability, followed by securing permission from retail establishments and obtaining informed consent from participants. Surveys are administered either personally or electronically, depending on respondent availability. Collected data are coded, anonymized, and securely stored to maintain confidentiality. Data cleaning procedures are conducted to check for completeness, outliers, and inconsistencies prior to analysis.

2.7 Data Analysis Techniques

Data are analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics, including frequency, percentage, mean, and standard deviation, are used to summarize respondent profiles and levels of mobile payment adoption. Pearson product–moment correlation is applied to determine the strength and direction of relationships between variables. Regression analysis is used to assess the predictive influence of mobile payment adoption on job creation, revenue growth, and customer retention. Hypothesis testing is conducted at a 0.05 level of significance to evaluate the impact and relationships of mobile payment adoption on employment and revenue outcomes. Statistical results are interpreted using p-values, t-values, F-values, and R^2 to determine the significance and explanatory power of the relationships examined.

3. Results and Discussion

3.1 Impact of Mobile Payment Adoption on Employment and Revenue Performance

3.1.1 Adoption Rate of Mobile Payment Systems

The findings show that mobile payment adoption in Zhejiang's retail industry is generally high, with all indicators rated as "Aware." The highest-rated indicators include the acceptance of platforms such as Alipay and WeChat Pay, the widespread availability of mobile payment services, and the perception that mobile payment adoption is essential for competitiveness, all with mean values of 3.00. The regular use of mobile payments in transactions is also evident (M = 2.99), while reliance on these systems for facilitating purchases is slightly lower but still within the same awareness level (M = 2.96). These results indicate that mobile payment systems are well integrated into retail operations and are widely recognized as necessary for maintaining competitiveness. The strong awareness reflects the maturity of digital payment adoption in Zhejiang, where retailers have largely incorporated these technologies into daily business activities.

3.1.2 Transaction Frequency of Mobile Payment Usage

The results indicate that mobile payment usage is consistent across different operational periods, with the highest indicator showing consistent use during both peak and non-peak hours (M = 3.02). This is followed by the dominance of mobile payments over traditional methods (M = 3.01) and the significant share of transactions conducted through digital platforms (M = 2.99). Frequent daily usage is also observed (M = 2.98), while managerial guidance in operations ranks lowest but remains within the same level (M = 2.98). These findings suggest that mobile payment systems have become a dominant and stable component of retail transactions. The consistent usage across different business conditions highlights their operational importance and indicates a shift toward cashless payment preferences among consumers.

3.1.3 Merchant Satisfaction with Mobile Payment Systems

The results show that merchant satisfaction with mobile payment systems is generally high, with all indicators rated as "Aware." The highest-rated factor is the improvement in transaction speed and efficiency (M = 3.02), followed by convenience and ease of use (M = 3.01) and acceptable operational costs (M = 3.01). Overall system performance also meets expectations (M = 3.00), while reliability and security receive slightly lower but still positive ratings (M = 2.98). These results indicate that efficiency, convenience, and cost-effectiveness are key drivers of merchant satisfaction. The slightly lower rating for reliability suggests that while systems are generally trusted, there may still be minor concerns that could influence long-term confidence in mobile payment technologies.

3.2 Problems Encountered in Mobile Payment Adoption

3.2.1 Effects on Job Creation

The findings reveal that the effects of mobile payment adoption on job creation are perceived as "Serious," with the highest indicators showing that job creation and workforce growth are influenced by mobile payment integration (M = 3.01). Changes in employment levels and labor needs are also evident (M = 3.00), while the creation of new job roles ranks slightly lower but remains significant (M = 2.98). These results suggest that mobile payment adoption significantly reshapes employment structures within the retail industry. The emphasis on workforce growth and changing labor demands indicates that digital payment systems contribute to both job creation and workforce transformation.

3.2.2 Effects on Revenue Growth

The results indicate that the impact of mobile payment adoption on revenue growth is also considered "Serious," with key indicators reflecting substantial changes in revenue patterns and financial performance (M = 3.01). Other indicators highlight shifts in sales performance and increased transaction values (M = 3.00), while overall financial growth remains consistently significant across measures. These findings imply that mobile payment systems play a crucial role in enhancing revenue performance. The consistent ratings across indicators demonstrate that digital payments contribute to improved financial outcomes and sustained business growth.

3.2.3 Effects on Customer Retention

The findings show that customer retention is strongly influenced by mobile payment adoption, with the highest indicator reflecting sustained customer relationships (M = 3.02). Changes in customer loyalty and long-term engagement are also significant (M = 3.01), followed by the influence of mobile payments on purchasing decisions (M = 3.01). The lowest indicator, though still significant, relates to repeat purchase behavior (M = 2.97). These results indicate that mobile payment systems enhance customer retention by improving convenience and satisfaction. The strong influence on loyalty and repeat patronage highlights the role of digital payments in strengthening customer relationships in the retail sector.

3.3 Relationship Between Mobile Payment Adoption and Employment and Revenue Performance

The results reveal a significant relationship between mobile payment adoption and its effects on employment and revenue performance, with a p-value of 0.000, which is below the 0.05 level of significance. The correlation coefficient ($r = 0.658$) indicates a strong positive relationship, showing that higher levels of mobile payment adoption are associated with better employment outcomes and improved revenue performance. This finding suggests that mobile payment adoption is a key driver of both economic and organizational outcomes in the retail industry. The strong correlation confirms that increased integration of digital payment systems contributes to job creation, revenue growth, and customer retention, reinforcing the importance of technological adoption in enhancing overall business performance.

4. Conclusion & Recommendations

The study concludes that mobile payment adoption in the retail industry of Zhejiang Province is generally perceived as evident in terms of adoption rate, transaction frequency, and merchant satisfaction, although certain aspects still require improvement. The problems encountered in relation to employment generation and revenue performance are considered serious, indicating notable challenges alongside adoption. The findings further establish a significant relationship between mobile payment adoption and its effects on employment and revenue performance, demonstrating that increased adoption is associated with improved business outcomes. Overall, the integration of statistical results and performance indicators confirms that mobile payment adoption contributes to employment generation and revenue growth, highlighting the role of digital financial technologies in supporting business expansion and economic development.

It is recommended that efforts be directed toward strengthening mobile payment infrastructure and encouraging wider merchant adoption to enhance both employment generation and revenue performance in the retail industry. Addressing the identified challenges related to adoption is essential to maximize the benefits of mobile payment systems. Continuous improvement in system implementation and operational integration should be prioritized to ensure that mobile payment technologies effectively support sustainable economic growth and business development within the retail sector.

The study is limited to the retail industry in Zhejiang Province and focuses specifically on the relationship between mobile payment adoption, employment generation, and revenue performance. While the findings provide valuable insights, they may not fully represent other regions or industries with different economic conditions and levels of technological adoption. Additionally, the study relies on the selected sample and measured indicators, which may not capture all possible factors influencing mobile payment adoption and its outcomes.

Compliance with ethical standards

The study followed appropriate research procedures to ensure ethical conduct, including validation and pre-testing of the research instrument, securing permission from retail establishments, and obtaining informed consent from all participants. Data were collected through survey administration and were coded, anonymized, and securely stored to maintain confidentiality, with additional data cleaning conducted to ensure accuracy and integrity prior to analysis.

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