ASSESSING THE IMPACT OF DIGITAL PAYMENT SYSTEMS ON UNIVERSITY STUDENTS' SPENDING PATTERNS: A QUANTITATIVE STUDY

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Abstract

Digital payment systems have transformed financial transactions by offering convenience and efficiency, particularly for university students. This quantitative study examined the effect of digital payment usage on the spending behavior of students in Nigerian universities. Using a descriptive-correlational research design, data were collected from three hundred fifty (350) students across the University of Lagos, Obafemi Awolowo University, and Ahmadu Bello University. The study applied the Theory of Planned Behavior to explore how students' attitudes, social influence, and perceived behavioral control shape their financial decisions. Findings revealed that positive attitudes toward digital payments significantly influence spending behavior, while peer influence does not have a notable effect. Students with higher perceived financial control demonstrated more responsible spending habits. Digital payment platforms, such as Flutterwave, Paga, and Paystack, were found to facilitate both convenient transactions and occasional impulsive purchases. Statistical analyses, including correlation, regression, and Chi-Square tests, indicated that demographic factors such as age, gender, and monthly allowance play a significant role in students' spending behavior. The results highlight the importance of integrating financial literacy programs to promote responsible digital payment use among Nigerian university students.

Keywords: Digital payments, Student, Spending behavior, Financial literacy, Nigeria.

Introduction

The rapid advancement of technology has significantly reshaped financial transactions, particularly among university students. Digital payment systems such as mobile wallets, online banking platforms, and contactless payment apps have become increasingly popular among students, providing convenience, speed, and efficiency in managing daily financial activities. These tools reduce the reliance on physical cash, allowing users to make payments, transfer funds, and conduct online purchases directly through their smartphones. As a result, students are progressively integrating digital solutions into their financial routines. In the Nigerian context, digital payment adoption has grown steadily, supported by fintech innovations like Flutterwave, Paga, and Paystack. Despite this growth, challenges remain, including inconsistent internet access, uneven smartphone penetration, and varying levels of financial literacy among students. These factors may influence students' exposure to digital payments, their ability to manage funds effectively, and their overall spending behavior.

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At institutions such as the University of Lagos, Obafemi Awolowo University, and Ahmadu Bello University, digital payments have become part of everyday academic life, from paying tuition fees to purchasing educational materials or accessing campus services. While these systems offer convenience and efficiency, they also present risks: the ease of transactions may encourage impulsive spending, reduce budgeting discipline, and expose students to cybersecurity threats. This study investigates the effect of digital payment usage on the spending behavior of Nigerian university students. The findings aim to provide insights for educators, policymakers, and financial service providers to design targeted financial literacy programs and promote responsible use of digital financial tools among students.

Review of Related Literature
The Rise and Evolution of Digital Payments
Digital payment refers to transactions executed through electronic devices and platforms (Dimitrova & Yazdanfar, 2021). It encompasses methods such as electronic fund transfers, mobile applications, and contactless technologies that facilitate seamless financial transactions without physical cash (Migliore et al., 2022). These technologies have evolved to include smart features like budgeting tools, further integrating financial management into users' daily lives (Zhu, 2023). Globally, digital payments have shown exponential growth, with transaction values reaching US$4.7 billion in 2020 and projected to hit US$7.4 billion by 2024 (Oentoro, 2021). In the Philippines, the Bangko Sentral ng Pilipinas (BSP, 2022) reported a surge in digital wallet usage and contactless payment adoption. Filipino consumers, especially Gen Z and millennials, are increasingly engaging in cashless transactions, averaging ten days without using physical currency (Magkilat, 2024). This trend indicates a shift in behavior and preferences toward more secure and convenient financial technologies.

Student-Centric Digital Payment Adoption
The convenience and accessibility of digital payment platforms have also penetrated the education sector. As universities adopted alternative learning methods, electronic payments became essential for enrollment fees and related academic expenses (Espeleta, 2022). According to Thirunavukkarasu and Krishnamoorthy (2024), understanding the challenges and facilitators of digital payment adoption among students is critical for enhancing usability, expanding merchant networks, and improving ewallet literacy.

Ramli and Hamzah (2021) emphasized the role of mobile apps and the internet in shaping financial behavior, noting that e-wallets act as online prepaid accounts capable of supporting both online and offline purchases. These platforms signify a transformation in financial behavior, particularly among tech-savvy youth.

Financial Behavior and Literacy
Adoption of digital payments among students is closely linked with financial behavior. Abdallah et al. (2024) and Alekam et al. (2018) identified financial knowledge, consciousness, and decision-making abilities as significant influences on students' financial behavior. Sechna (2022) similarly emphasized that financial literacy plays a vital role in the responsible use of digital financial systems. Amagir, Groot, and Wilschut (2018) suggested that experiential and

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interactive financial education methods are more effective than traditional approaches. By incorporating real-world examples and practical learning tools, students can build stronger financial skills and better manage digital financial tools. Sorooshian and Teck (2018) proposed behavior charts and layaway systems as tools to help students cultivate disciplined spending and understand financial concepts such as budgeting and delayed gratification. These systems can also reinforce good financial behavior through structured monitoring and rewards.

The Role of Digital and Financial Literacy
Digital literacy emerged as a key factor during the COVID-19 pandemic, as students increasingly relied on online platforms for financial transactions (Darmawan & Wenerda, 2022). Trust, perceived usefulness, and security are central in determining a student's willingness to use digital payment services (Kurniasari, 2021; Kantika et al., 2022). Seldal and Nyhus (2022) found that users of digital financial tools generally possess higher financial literacy, further solidifying the link between knowledge and adoption. Ullah et al. (2022) also identified digital skills as vital in influencing mobile banking and payment adoption.

Regulatory and Cultural Influences
Beyond individual traits, systemic factors such as regulatory frameworks and technological innovations play a crucial role in fostering digital adoption. Tenk (2020) noted the influence of policy in shaping trust and usage, while Kwabena et al. (2019) emphasized that advancements in digital infrastructure enhance speed and cost-efficiency. Cultural attitudes also contribute; Bagla and Sancheti (2018) and Tang et al. (2021) highlighted that convenience, perceived security, and flexibility influence digital payment acceptance.

Gender Differences and Spending Behavior Gender dynamics further influence digital financial behaviors. Pradhana and Sastiono (2019) found that women purchase online more frequently than men, but men spend more per transaction. Mandarić et al. (2021) elaborated that women are driven by emotional and social experiences in digital purchases, whereas men are more influenced by risk perception and trust. These behavioral nuances suggest the need for gender-sensitive digital financial education.

Cobla and Osei-Assibey (2018) emphasized that mobile money affects student spending behavior, often increasing expenditure while reducing saving tendencies. Sandrasegaran and Rambeli (2023) also found that female students save more frequently, and that parental income significantly shapes student spending habits. Early exposure to financial values, as noted by Akelo et al. (2019), is crucial in shaping lifelong money management behaviors.

Effects of Digital Payment on Financial Habits
Digital financial applications often provide tools like budgeting and expense tracking, which help students control their finances and improve their financial habits (Linawati & Wijaya, 2022). Sumaylo et al. (2022) linked financial inclusion to banking stability, suggesting a broader socioeconomic benefit from increased digital payment use among students.

Emotional and psychological factors also drive adoption. According to Bapat and Khandelwal (2022) and Bapat and Hollebeek (2023), consumer hope and engagement are key to sustained

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use of digital payment apps. These platforms must not only be functional but also emotionally resonant to encourage frequent use.

Nevertheless, the ease of cashless transactions may lead to negative outcomes. Liang (2022) and Park et al. (2021) warned that digital payments can fuel impulsive and risky consumption due to decreased attention to money outflows. Rauf and Thoha (2022) supported this view, identifying increased spending in categories such as food, online shopping, and social sharing. Setiawan et al. (2020) cautioned that poor spending habits can have long-term financial consequences. Lach and Nzorubara (2023) underscored the danger of low financial literacy, linking it to reduced saving and investment behavior, which can hinder economic growth and limit access to financial services.

This study applies the Stimulus-Organism-Response (SO-R) model. The Stimulus, based on the Theory of Planned Behavior, includes Attitude, Social Influence, and Perceived Control toward digital payments. The Organism focuses on

MCC students' internal responses to these factors. The Response examines how these perceptions influence their actual spending behavior.

Hypothesis of the Study

Ho: Demographic profile and digital payment have no significant effect on spending behavior.

H$_1$: Demographic profiles and digital payments have a significant effect on spending behavior.

Methodology
Research Design and Approach
This study adopted a quantitative, correlational research design to examine the effect of digital payment systems on students' spending behavior in Nigerian universities. The approach allows for objective measurement of variable relationships and statistical analysis without implying causation. Student demographics—including age, gender, year level, and monthly allowance— were considered as covariates to determine their influence on spending patterns. Previous studies (e.g., Tribhan, 2024; Amadi & Nubia, 2021) highlight the importance of demographic variables and real-world contexts in analyzing consumer behavior related to digital payments.

Research Locale and Respondents
The study was conducted across three Nigerian universities: University of Lagos, Ahmadu Bello University, and Obafemi Awolowo University. These institutions provide diverse student populations and varying levels of digital infrastructure, making them ideal for examining the impact of mobile wallets, online banking, and other digital payment methods. A stratified random sampling technique was employed to ensure balanced representation across faculties and year levels. From a population of 4,120 students, a sample of 365 respondents was determined using Slovin's formula with a 5% margin of error, with proportional allocation ensuring fair representation across faculties and programs.

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Research Instruments and Data Collection

Data were collected using a researcher-developed questionnaire, which included structured multiple-choice items and a 4-point Likert scale to assess attitudes, social influences, perceived behavioral control, and spending behaviors related to digital payments. The instrument was pretested for reliability, with Cronbach's alpha for the Spending Behavior Impact scale yielding 0.80, interpreted as "Good." Data collection followed ethical protocols, including informed consent, voluntary participation, anonymity, and secure handling of responses. Questionnaires were distributed in both physical and online formats, and responses were tallied, tabulated, and analyzed using Microsoft Excel.

Data Analysis and Statistical Treatment

Descriptive statistics, including frequency counts, percentages, weighted means, and standard deviations, were used to summarize respondents' demographic profiles, income levels, and digital payment usage. Inferential analysis involved Chi-Square tests to examine associations between demographic factors and spending behaviors, highlighting the influence of variables such as age, gender, and monthly allowance. Statistical significance was determined at $p < 0.05$. The study also employed correlation analysis to assess the relationship between digital payment usage and spending behavior, allowing insights into responsible and impulsive financial patterns among students.

Summary of Findings
Demographic Profile of Students

Most respondents are aged 20–22 and predominantly female. Students come from various institutes and year levels at MCC, with most managing a monthly allowance below 2,000 PHP.

Students' Online Spending Priorities

Students prioritize spending on tuition, supplies, and daily needs, with less focus on non-essentials.

Digital Payment Application Usage

Flutterwave is the most used platform due to convenience and accessibility, while others like Paga and online banking are less common.

Spending Behavior

Students show practical, needs-based spending habits. Leisure spending is present but secondary. Impact of Digital Payments on Spending Behavior Students value digital payments for their convenience and control. Peer influence is minimal, and students feel confident managing digital transactions.

Correlation between Demographic Variables and Spending Behavior

Age: Younger students have more positive attitudes and stronger control.

Sex: Female students are slightly more peer-influenced but both genders show positive attitudes.

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Institute: Influences perceived control, especially in business/tech fields.

Year Level: Affects control but not attitude or social influence.

Income Level: Higher income relates to more positive attitudes and greater financial control.

Conclusion

Demographic Profile: Most students are young, tech-savvy, and female, with limited income influencing cautious spending.

Online Spending Priorities: Academics are the main spending focus, with limited discretionary purchases.

Digital Payment Apps: Flutterwave is dominant due to usability and features that suit student needs.

Spending Behavior: Students favor essential purchases and discounts, showing financial discipline despite occasional impulse spending.

Impact of Digital Payments: Students view digital tools positively and use them to support mindful spending. Social influence is low; independence is high.

Demographics & Behavior: Age, sex, institute, year level, and income all influence attitudes and behaviors, with students in higher levels or relevant fields showing more control and digital engagement.

Recommendations

1. Set Financial Goals Based on Income Students should align budgets with income and use digital tools for tracking and reviewing expenses.

2. Promote Positive Financial Attitudes

Encourage use of app features like spending limits and promote financial literacy to reinforce healthy habits.

3. For Future Researchers

Incorporate qualitative methods and explore other settings to gain deeper insights into students' digital payment behavior.

Summary

Digital payment platforms help students manage finances responsibly. Implementing these recommendations will strengthen financial skills, encourage saving, and prepare students for future independence.

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