



Digital Financial Services and Student Financial Behavior: Evidence from South-Eastern Nigeria

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ABSTRACT

This research investigated the impact of Digital Financial Services (DFS) on the monetary habits of students in South-Eastern Nigeria. Specifically, it analyzed how extensively DFS is embraced and its implications on budgeting, saving, expenditure, and borrowing behaviors. A cross-sectional survey design was employed to collect data from undergraduate students enrolled in six federal and state universities located in the South-Eastern region of Nigeria. Structured questionnaires were administered, yielding 386 valid responses for analysis. Binary Logit Regression in conjunction with descriptive statistics was employed. The result indicates significant DFS adoption among students, fueled by ease of access, convenience, and diminished reliance on conventional banking methods. Further findings showed that while DFS improved budgeting and saving habits for some students, it also led to hasty spending and increased dependence on digital loans, often without sufficient regard for repayment responsibilities. The study concludes that DFS has a dual impact: fostering financial inclusion while concurrently exposing students to financial behavioral risks related to inadequate financial knowledge. It suggests that universities, regulatory bodies, and fintech companies should enhance financial literacy, devise student-friendly financial offerings, and improve supervision of digital lending platforms to ensure responsible usage of DFS among the student population.

RESEARCH ARTICLE

KEYWORDS: Digital Financial Services, Financial Behavior, Budgeting, Savings, Financial Literacy, Financial Inclusion.

INTRODUCTION

Nigeria's financial sector is experiencing swift evolution, yet this advancement is taking place against the backdrop of considerable economic distress. Recent insights emphasize that while the nation's fintech domain expanded by an extraordinary 70% in 2024 (Bamanga et al., 2025), despite a slowdown in funding and stricter regulations, countless Nigerians still contend with rising inflation, currency fluctuations, and insufficient access to conventional banking systems. Akanbi (2024) recognizes that digital financial services (DFS) are vital for narrowing the gaps in financial inclusion, especially for marginalized demographics.

However, the growth of DFS has also unearthed systemic issues, including minimal financial literacy, regulatory ambiguities, and the dangers of excessive dependence on mobile-based platforms (Wezel & Ree, 2023).

Globally, DFS has revolutionized banking by rendering financial systems more reachable, convenient, and efficient compared to conventional methods (Nnaomah et al., 2024; Ocharive & Iworiso, 2024). Finland led the way in digital banking back in 1992 when Merita Nordbanken customers leveraged GSM mobile networks and Short Message Service (SMS) for bill payments and balance inquiries (Barnes & Corbitt, 2003). Since that time, innovations like Wireless Application Protocol (WAP), Japan's i-mode platform, and smartphone applications have expanded the horizons of digital finance. Presently, DFS includes payments, loans, savings, transfers, insurance, and financial information provided through digital avenues such as mobile phones, ATMs, POS devices, NFC technologies, and biometric systems (Abbasi & Weigand, 2017).

The 2008 financial downturn ignited the creation of new digital finance tools, while the COVID-19 pandemic solidified their adoption by ensuring the continuity of financial functions amidst social distancing, supply chain interruptions, and economic unpredictability (Fu et al., 2020). Enhanced security measures, quicker transaction speeds, and value-added features like cashback and loyalty programs have further accelerated consumer inclination towards digital platforms over cash and credit cards (Trivedi, 2016).

Nigeria has established itself as one of Africa's most vibrant fintech landscapes. As of 2021, the nation was home to 144 fintech companies, ranking just behind South Africa's 154 but exceeding Kenya's 93; together, these three countries comprised over 65% of Africa's total of 576 digital finance firms (Consumer Trend Report 2025). The Fintech Association of Nigeria has played a pivotal role in fostering this development (Ele et al., 2024). The 2023 currency overhaul, which led to significant cash shortages, further propelled the adoption of DFS. In February 2023, the Nigeria Inter Bank Settlement System (NIBSS) recorded a remarkable 183.7 million digital transactions, a rise from 108.1 million in January (Global Legal Group, 2024).

Despite this uptrend, the sector contends with ongoing issues: stricter regulations, waning investor confidence, inflationary pressures, and currency volatility continue to influence the evolution of DFS in Nigeria (Islam et al., 2022; Ele et al., 2024). Recent analyses indicate that while the sector grew by 70% in 2024, disparities in financial literacy and over-reliance on mobile platforms persist as significant challenges (Fintech News Africa, 2024).

Among those most impacted are university students, who heavily depend on digital platforms to navigate limited financial resources. With constrained income and reliance on familial support or small enterprises, students in South Eastern Nigeria utilize mobile apps like Opay, Kuda, and PalmPay for bill payments, fund transfers, savings, and micro-loan access. Point of Sale (POS) terminals like Moniepoint and payment gateways such as Flutterwave, Remita, and Paystack have simplified transactions, decreasing the need for physical bank visits.

However, while these instruments boost financial inclusion, they concurrently expose students to risks. Research indicates that DFS can encourage impulsive purchasing, inadequate budgeting, and poor saving practices (Gitau, 2018).

Although DFS has been broadly embraced, there has been minimal empirical investigation into its influence on the financial conduct of students in South Eastern Nigeria. The majority of research tends to concentrate on SMEs, rural populations, or the conventional banking system, neglecting the distinct challenges faced by youth amid economic turbulence and escalating educational expenses (David-West et al., 2020). This oversight hinders policymakers, educators, and fintech firms from developing customized financial literacy initiatives or student-centric financial products. Consequently, this study endeavors to analyze the effect of digital financial services on the financial behaviors of students in South-Eastern Nigeria. Specifically, it aims to evaluate how digital finance instruments shape students' budgeting, saving, borrowing, and expenditure trends. By tackling this concern, the research aspires to furnish data-driven insights that will enhance students' financial health and promote the responsible utilization of digital financial services in a swiftly transforming digital economy. Hence, we aim to address the following research inquiries: to what degree do students in South-Eastern Nigeria utilize Digital Financial Services for financial management? And in what ways has the uptake of Digital Financial Services impacted students' financial behaviors regarding budgeting, saving, borrowing, and spending practices?

Objectives of the Study

1. To assess the extent to which students in South-Eastern Nigeria utilize Digital Financial Services in managing their personal finances.
2. To evaluate the influence of Digital Financial Services on students' budgeting, saving, borrowing, and spending behaviors in South-Eastern Nigeria.

LITERATURE REVIEW

2.1 CONCEPTUAL REVIEW

2.1.1 Digital Financial Services, Financial Inclusion, and the Role of Financial Literacy in Shaping Students' Financial Behavior

Digital Financial Services (DFS) are financial solutions accessed via digital technologies, enabling consumers to interact electronically without direct engagement with conventional financial institutions (Pazarbasioglu et al., 2020). They encompass payments, savings, loans, investments, insurance, and advisory services, allowing individuals and businesses to transact with ease. Globally, DFS has enhanced financial inclusion through mobile money, platform ecosystems, and open APIs. Kenya's M-Pesa empowers unbanked communities with over 850 million accounts processing \$1.3 billion daily (GSMA, 2023), while super apps like Alipay and GoPay integrate payments, credit, and savings (Zhang & Chen, 2021). India's Aadhaar-linked APIs have enabled secure digital onboarding for millions of low-income users (World Bank, 2020).

Financial empowerment involves integrating marginalized populations into the financial system, ensuring access to affordable loans and diverse offerings (Olaniyi & Adeoye, 2016; Sanderson Abel, 2018; Menza et al., 2024). In Nigeria, exclusion has long hindered growth, with 39.2 million adults (46.3%) lacking access in 2010, particularly women (54.4%) and rural dwellers (80%). To address this, the Central Bank of Nigeria (CBN, 2020) launched the National Financial Inclusion Strategy (NFIS), which raised inclusion from 68% in 2020 to 74% in 2023, though 26% remain excluded (Access to Finance, 2024). For Nigerian students, DFS has become vital in overcoming challenges such as distant banking facilities, complex account setups, and high service charges. Platforms like Opay, Kuda, and PalmPay, POS terminals like Moniepoint, and gateways such as Flutterwave, Remita, and Paystack have streamlined payments and reduced reliance on physical banks (Ele et al., 2024). DFS saves time and transport costs, promotes savings, and provides microloans, while user-friendly platforms mitigate low financial literacy and rigid banking regulations, empowering students to budget and manage finances more effectively. Thus, DFS acts not only as a practical tool but also as a catalyst for financial inclusion among Nigeria's student population (Gitau, 2018).

At the same time, financial literacy, defined as the understanding of financial concepts and risks, along with the abilities, drive, and mindsets needed to make prudent financial choices (Fáykiss et al., 2022) remains a critical factor in shaping students' interaction with DFS. It includes knowledge in areas such as investing, insurance, credit management, budgeting, retirement planning, and taxation (Idika & Udoma, 2022). Remund (2010) identifies five aspects of financial literacy: knowledge, communication, capability, behavior, and confidence, emphasizing that literacy integrates knowledge, attitudes, skills, and the need for financial information. Yet, studies consistently show that undergraduate students often exhibit low levels of financial literacy. Idika and Udoeye (2022) found limited understanding among Economics Education undergraduates in Nigeria, a result echoed by Oseifuah and Gyekye (2018) in Ghana, Kumar and Bhukar (2013) in India, and Ramavheha, Fouché, and van der Walt (2017) in South Africa. Overall, these findings reveal that while students benefit from exposure to financial technologies, their limited literacy constrains effective use of DFS.

Financial behavior is defined as the conduct related to managing resources (Dew & Xiao, 2011), is critical for life success. DFS now shape this behavior through budgeting, saving, spending, and borrowing practices. Budgeting reduces uncertainty and stress while promoting savings (Xiao and Shim, 2011; Lusardi & Tufano, 2015) and DFS tools such as mobile apps enhance this process with real-time tracking features. However, mobile wallets and online banking, while encouraging cashless transactions, also increase impulsive purchasing (Jannah, Yuniningsih, & Nur, 2025; Bhoopathy & Kanagaraj, 2023). These technologies streamline payments and foster instant gratification but also provide expense-tracking features that promote awareness and responsible behavior (Yousef, 2024; Bhoopathy & Kanagaraj, 2023). Thus, DFS exert a dual influence: they facilitate better budgeting and awareness yet expose students to risks of impulsive spending and poor saving discipline. This underscores the importance of targeted financial literacy programs to guide responsible

interaction with digital platforms (Farida, Soesatyo, & Aji, 2021; Idika & Udoma, 2022; Remund, 2010).

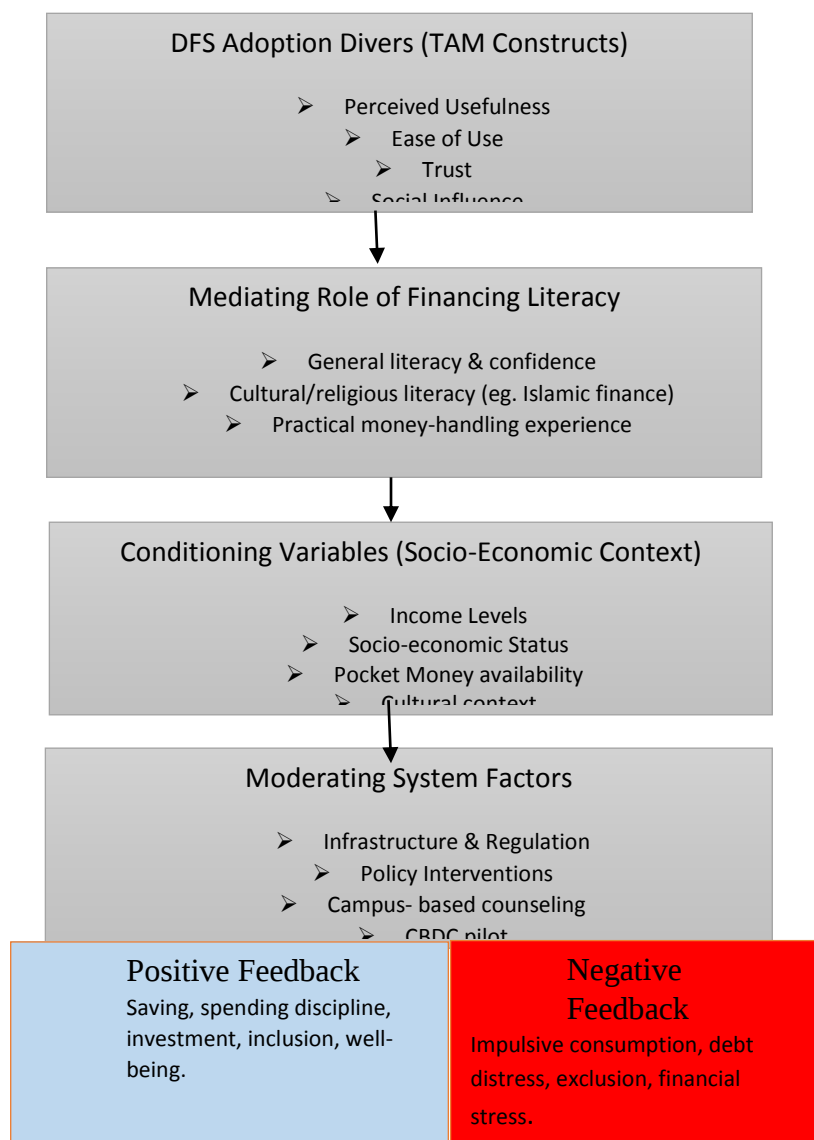
2.1.2 Conceptual Framework: Influence of Digital Financial Services on Students' Financial Behavior

DFS Adoption → Provides access to mobile banking, wallets, and budgeting apps.

Moderated by Financial Literacy & Accessibility → Determines whether DFS use is transactional or strategic.

Influences Financial Behavior → Shapes budgeting, saving, borrowing, and spending patterns among students.

Figure1: Influence of Digital Financial Services on Students' Financial Behavior.



Source: Author's Depiction, 2025.

The figure, above demonstrates how DFS adoption flows through literacy, socio-economic realities, and systemic supports to shape student financial behavior.

2.2 Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is an extension of the Theory of Reasoned Action (TRA), originally introduced by Icek Ajzen in 1980 (Clarence and Pertiwi, 2023). Both the Theory of Reasoned Action (TRA) and related models are considered deliberative processing frameworks, as they propose that individuals make behavioral choices through thoughtful evaluation of available information (Conner and Armitage, 1998).

The TRA emerged from Fishbein's research into how attitudes influence behavior and the limitations of using attitudes alone to predict actions. According to TRA, the most immediate predictor of voluntary behavior is an individual's intention to perform that behavior. Intentions reflect a person's motivation, representing a conscious decision or plan to invest effort in executing the behavior (Conner and Armitage, 1998). A strong relationship between intentions and behavior is observed when both are measured with consistent specificity regarding the action, target, context, and time, and when the interval between measurement and action is short enough to ensure intentions remain unchanged. The theory also asserts that attitudes toward a behavior influence action indirectly by shaping intentions. However, because TRA assumes that behavior is fully guided by intention, it is limited to volitional actions. Behaviors that require skills, resources, or opportunities beyond an individual's immediate control fall outside the scope of TRA or are predicted by it with reduced accuracy (Conner and Armitage, 1998).

The Theory of Planned Behavior (TPB) explains that behavioral intentions, shaped by an individual's attitude toward the behavior, social expectations (subjective norms), and perceived control over the behavior, have a direct influence on actual actions. This theory offers a structured approach to **understanding** deliberate behavioral decision-making processes (Tan, 2025). The effectiveness of financial behavior is largely influenced by an individual's financial mindset. A positive attitude toward money typically leads to greater accountability in managing one's finances, along with a stronger inclination to save, invest, and plan for long-term financial security (Bhuvaneshwari and Vinitha, 2025). The Theory of Planned Behavior (TPB) can be applied to illustrate how an individual's confidence affects their behavioral intentions. A person's decision to engage in a specific behavior is shaped by their belief in their ability to perform it, which is closely tied to their level of awareness. Higher awareness enhances motivation, increasing the likelihood of action. When the intended behavior is executed, individuals are more likely to experience satisfaction with the resulting outcomes (Bhuvaneshwari and Vinitha, 2025).

2.3 Empirical Literature

Digital Financial Services (DFS) have become pivotal in influencing financial habits among youth, especially students, by shaping their saving, spending, and overall fiscal management

practices. Gitau (2018), analyzing survey data from undergraduates in Nairobi, discovered that the accessibility of mobile banking promoted savings but simultaneously led to impulsive expenditures due to its convenience, concluding that DFS have a dual impact requiring financial education to ensure responsible use. Echoing these concerns, Vijayalakshmi and Paul (2018) utilized surveys of college students in India, noting their tendency to depend on peers and conventional media for purchase decisions, infrequently budgeting, and demonstrating impulsive consumption behaviors. They concluded that the convenience of DFS could foster poor spending habits if not accompanied by educational initiatives. Financial literacy emerges as a crucial factor shaping students' engagement with DFS.

Oseifuah, Gyekye, and Formadi (2018) conducted surveys of Ghanaian undergraduates, revealing that those with experience in managing money and receiving higher allowances exhibited a greater propensity to save; however, literacy alone did not substantially affect saving behavior, concluding that practical experience is more influential than literacy by itself. This aligns with the findings of Setiawan et al. (2022), who employed structural equation modeling to study Indonesian millennials and indicated that socio-economic status influences digital financial literacy, subsequently enhancing saving and spending behaviors while fostering foresight in future financial decisions. Nugroho and Apriliana (2022), through surveys rooted in Islamic financial literacy frameworks, established that literacy both directly and indirectly affected students' intentions to adopt GoPay, concluding that cultural and religious factors notably moderate DFS adoption. Collectively, these studies emphasize the necessity of practical experience and tailored literacy initiatives for students in South Eastern Nigeria, where DFS uptake is growing but financial literacy remains inconsistent. Furthermore, technology adoption models illuminate student financial practices.

Priantinah et al. (2019), utilizing the Technology Acceptance Model (TAM) through survey-based structural equation modeling in Indonesia, found that perceived usefulness, ease of use, and system quality significantly affected the behavioral intention to embrace digital tools, concluding that usability and system quality are vital driving forces behind adoption. Similarly, Pintér et al. (2021), by surveying Hungarian university students, indicated that Generation Z preferred rapid, secure, and tailored digital financial services over traditional banking, concluding that global student inclinations are shifting toward digital-centric solutions. These insights suggest that Nigerian students' interactions with DFS will likely be influenced not only by literacy but also by their perceptions of usability, trust, and peer influence, as highlighted by Rahadian and Multarida (2023), who surveyed Indonesian students and concluded that behavioral intention, social impact, service reliability, and usability significantly bolster financial inclusion.

In addition to personal actions, extensive research reveals systemic and generational impacts. Narayanaswamy et al. (2022), utilizing regression analysis on Indian populations, established that income levels, rather than age, primarily influenced savings and investment practices, concluding that socioeconomic conditions significantly shape financial results. Moenjak et al. (2020), through case studies and survey evaluations of Thailand's FinTech landscape, stressed the necessity of favorable regulations and cohesive infrastructure, concluding that while adoption enhanced inclusion, educational gaps remained among disadvantaged

communities. These findings hold significance for Nigeria, where infrastructural hurdles and inconsistent literacy rates might constrain the comprehensive advantages of DFS adoption among students. Creative solutions like central bank digital currency (CBDC) trials also illustrate how digital technologies can promote inclusion and literacy. Fáykiss et al. (2022), assessing Hungary's "Digital Student Safe" CBDC initiative through case studies and survey data, concluded that the project fostered financial and digital awareness among young users, framing CBDC as both a learning resource and a catalyst for inclusion. Recent academic research highlights the revolutionary impact of DFS in influencing financial conduct, inclusion, and well-being among students and wider communities. Rahadian and Multarida (2023), applying TAM and social influence constructs in surveys of Generation Z scholars at Telkom University, found that peer pressure and trust are pivotal elements for DFS adoption.

Respati et al. (2023), through quantitative surveys of Indonesian university scholars, showed that digital financial literacy and confidence substantially enhanced financial behavior and welfare, while Jhonson et al. (2023), utilizing regression analysis of Indonesian adults, determined that literacy positively affected spending, saving, and investment practices, thereby bolstering financial wellness. Collectively, these studies emphasize that literacy and assurance are crucial mediators of DFS results, reinforcing the necessity for focused financial literacy initiatives in South-Eastern Nigeria to guarantee responsible usage of DFS among students. Shahzadi and Abbas (2024), employing regression analysis on Pakistani university scholars, discovered that an increased understanding of financial inclusion and digital finance significantly boosted behavioral intentions toward DFS adoption, concluding that incorporating literacy into educational curricula is vital. Likewise, Shehadeh, Dawood, and Hussainey (2024), utilizing quantitative surveys of Jordanian university members, found that awareness, experience, and digital financial capabilities significantly elevated cashless payment uptake, with gender influencing the relationship, underscoring the requirement for specialized educational and policy actions, especially for female students. Technology adoption frameworks further explain how students engage with DFS.

Renaldo et al. (2025), applying TAM through survey-based quantitative analysis of accounting students across South East Asia, concluded that perceived usefulness and ease of use significantly improved digital financial understanding. Ayimah, Kuada, and Ayimey (2024), using structural equation modeling on Ghanaian students, similarly concluded that DFS adoption was driven by TAM constructs such as usefulness, ease of use, social influence, and trust, fostering financial inclusion and stimulating small enterprise development. These findings suggest that perceptions of usability and trust are central to DFS adoption, a dynamic highly relevant to Nigerian students.

The influence of financial knowledge on DFS adoption is further illustrated by Bhuvaneshwari and Vinitha (2025), who employed structured questionnaires among university students and concluded that financial knowledge, digital finance exposure, decision-making ability, and awareness positively influenced financial satisfaction and lending app adoption, while financial attitude had a negative effect. Their findings emphasize the integrative role of knowledge and behavior in predicting adoption outcomes, suggesting that tailored literacy programs are essential for contexts such as Nigeria where digital lending platforms are expanding rapidly. Complementary to this, Ismanto, Syafiqah, and Jazlina

(2024), through surveys of Indonesian students, concluded that FinTech literacy and inclusion supported financial access, though online loan usage sometimes caused psychological distress. Messakh and Ufi (2024), using experimental counseling interventions, concluded that financial counseling integrating money ethics and consumer psychology improved resilience and reduced exposure to high-cost loans, recommending campus-based counseling and ethics education.

3.0 Methodology and Model Specification

3.1.1 Research Design

This research adopted a quantitative cross-sectional survey to study the impact of Digital Financial Services on students, with the survey method chosen for its efficiency and ability to generate standardized responses across a wide population. A sample survey design enabled the description of specific characteristics of the target student population, while data were collected from 385 students through structured online questionnaires distributed via Google Forms. An inductive design allowed the findings to be generalized to all university students in South-East Nigeria, and the analysis included descriptive statistics, regression, frequency distributions, and demographic profiling to evaluate the influence of digital financial services on students' financial behavior in the region.

3.1.2 Population and Study Area

The South-East is one of Nigeria's six geopolitical zones, comprising Abia, Anambra, Ebonyi, Enugu, and Imo states. It is bordered by the River Niger to the west, Niger Delta to the south, North Central to the north, and Cross River to the east. Although the smallest zone, it contributes significantly to Nigeria's economy through oil, gas, and a growing industrial base.

The region has an estimated population of 36 million, representing about 18% of the national population. This study focused on students in government-owned higher institutions across the South-East. Records show 48,432 students at the University of Nigeria, Nsukka, and 49,615 at Nnamdi Azikiwe University. Alex Ekwueme Federal University reported over 10,000 students, while Federal University of Technology, Owerri, had 24,857, with state universities' figures remaining unpublished but large.

3.1.3 Sample Size of Determination

Scholars stress the significance of having a sufficiently large sample size to attain ample statistical power. If the sample size is too small, it could result in low power, making it challenging to identify genuine effects. Moreover, a bigger sample size enhances the accuracy of estimates, thereby decreasing the margin of error in the results.

Cochran's (1977) formula is particularly suitable when dealing with large or unknown populations. For such populations, the formula is expressed as:

$$n = \frac{Z^2 pq}{e^2}$$

Where;

n = the required sample size

e = the acceptable margin of error

p = the estimated proportion of the population

$q = 1 - p$

The value of Z corresponds to the chosen confidence level. Using $p=0.5$ (which reflects maximum variability) and a 95% confidence level with a Z -value of 1.96, the computation becomes:

$$n = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2} = 385$$

Thus, a sample size of 385 respondents is sufficient to achieve a 95% confidence level within the target population (Chhilar & Arora., 2023)

3.1.4 Sampling Technique and Research Instrument

The study adopted a non-probability convenience sampling technique, widely used in student-centered research for its practicality and ease of access (Etikan, 2016). This enabled the recruitment of readily available participants, while snowball sampling extended participation to students from other universities in South-East Nigeria. To minimize bias and improve generalizability, students from diverse institutions, disciplines, and demographic categories were included (Naser, 2025).

Data were collected using a structured online questionnaire distributed via Google Forms, the primary research instrument. Online platforms provide flexibility and wide reach (Braun et al., 2021), while standardized survey formats ensure consistency, reduce bias, and facilitate comparison (Naser, 2025). The questionnaire comprised three sections: A – demographic characteristics, B – students' usage of Digital Financial Services, and C – the influence of DFS on budgeting, saving, and spending. Self-administered and clearly designed, it allowed respondents to complete independently, enhancing accuracy, reliability, and validity.

3.1.5 Reliability of the Instrument

The Cronbach's Alpha Reliability Test was employed to assess the internal consistency of the instrument. The Cronbach's Alpha Co-efficient of the Reliability test is given as:

$$\alpha = \frac{k}{k-1} \left(1 - \frac{\sum \sigma^2}{\sigma_x^2} \right) \dots \dots \dots (1)$$

Where:

α = Cronbach's Alpha Co-efficient of Reliability

k = No of questions in the questionnaire

σ_x^2 = The variance of the observed total test scores

$\Sigma \sigma^2$ = The sum of the variance of the component, i for the pilot sample of the sole rice farmers

3.2 Method of Data Collection

The research instrument was distributed to students via WhatsApp using an online Google Forms questionnaire, ensuring easy access and convenience. The questions were clearly worded, making the instrument self-administered and straightforward to complete. This study employed a cross-sectional design to investigate multiple variables at a single point in time, with data analyzed using SPSS software and appropriate statistical tools.

Participants were currently enrolled students from institutions across South-East Nigeria, including Alex Ekwueme Federal University (AE-FUNAI), University of Nigeria Nsukka (UNN), Ebonyi State University (EBSU), Federal University of Technology Owerri (FUTO), Abia State University (ABSU), and Nnamdi Azikiwe University Awka Anambra State (UNIZIK).

3.3 Model Specification

The primary objective of this research was to examine the extent to which students in South-East Nigeria were utilizing Digital Financial Services in managing their personal finances. A secondary objective was to analyze how these services influenced students' budgeting, saving, and spending behaviors within the region.

The objectives will therefore be estimated using the Binary Logit Regression Model.

The Logit model was taken from Gujarat (2013) and is described as follows:

$$pi = \frac{1}{1 + e^{-Zi}} = \frac{e^Z}{1 + e^Z}$$

Where $Z_i = \beta_1 + \beta_2 X_{2i} + \beta_3 X_{3i} + u_i$

The second equation represents the cumulative logistic distribution function. We can verify that as P_i ranges between 0 and 1, Z_i ranges from $-\infty$ to $+\infty$ and P_i is linear in parameters but non-linear when related to Z_i .

P_i is the probability of the dependent variable being equal to 1 (Students' Financial Behavior)

Z_i is the linear combination of the independent variables which are Usage of Digital Financial Services (UDFS), Demographic Characteristics (DEM), and Digital Financial Literacy (Lit) for the i -th observation:

$$Z_i = \beta_0 + \beta_1 \text{Use of Digital Financial Services} + \beta_2 \text{Demographic characteristics} + \beta_3 \text{Financial Literacy}$$

e is the base of the natural logarithm

It is easy to verify that as Z_i ranges from $-\infty$ to $+\infty$, P_i ranges between 0 and 1 and that P_i is nonlinearly related to Z_i (i.e., X_i), thus satisfying the two requirements considered earlier. But it seems that in satisfying these requirements, we have created an estimation problem because P_i is nonlinear not only in X but also in the β 's as can be seen clearly from.

The probability of the perception is given as follows: let P_i , be the probability that respondents are experiencing poverty is 1. Therefore, the probability that the respondents did not experience poverty is $(1-P_i)$. Therefore, the probability of the perception is given as

$$1 - P_i = \frac{1}{e^z - 1}$$

We rewrite the equation as

$$\frac{P_i}{1 - P_i} = \frac{1 + e^{Z_i}}{1 + e - Z_i} = e^{Z_i}$$

Taking the log of equation (6) we have

$$Li = \ln\left(\frac{P_i}{1 - P_i}\right) = Z_i$$

Z_i remains defined as above. Z_i = function of N - explanatory variables for the sake of this study.

Among others, the Logit model will include three (3) core regressors on household poverty.

$$\begin{aligned} Li(\text{Students Fin. Behavior}) &= \ln\left(\frac{P_i}{1 - P_i}\right) \\ &= \beta_0 + \beta_1 UDFS + \beta_2 DEM + \beta_3 Lit + \beta_i X_i + \mu_i(8) \end{aligned}$$

$UDFS$ = Use of Digital Financial Services

DEM = Demographic Characteristics

Lit = Digital Financial literacy

$$\mu_1 = \text{Error term}$$

3.4 Apriori Expectation

The apriori expectation for the models specified above

Table 1 Apriori Expectation

Variables (Expected signs for)	On Students' Financial Behavior
Usage of Digital Financial Services	+
Demographic Characteristics	+
Digital Financial Literacy	+

3.5 Evaluation technique

The Binary Logit Regression Model was employed to evaluate the influence of digital financial services, demographic characteristics, and financial literacy on students' financial behavior in South-Eastern Nigeria.

Model Specification:

Financial Behavior (Y) = $\beta_0 + \beta_1$ Use of Digital Financial Services + β_2 Demographic Characteristics + β_3 Digital Financial Literacy + β_4 Other Control Variables + ε

Variables:

1. Financial Behavior (Y): Students' saving, budgeting, and spending patterns.
2. Use of Digital Financial Services (X_1): Access and usage of mobile banking, USSD, and digital wallets
3. Demographic Characteristics (X_2): Age, gender, and level of study.
4. Financial Literacy (X_3): Knowledge and use of financial tools like budgeting and saving apps.
5. Other Controls (X_4 – $X_{\square}$): Institution, comfort with DFS, and preference for digital over physical banking.

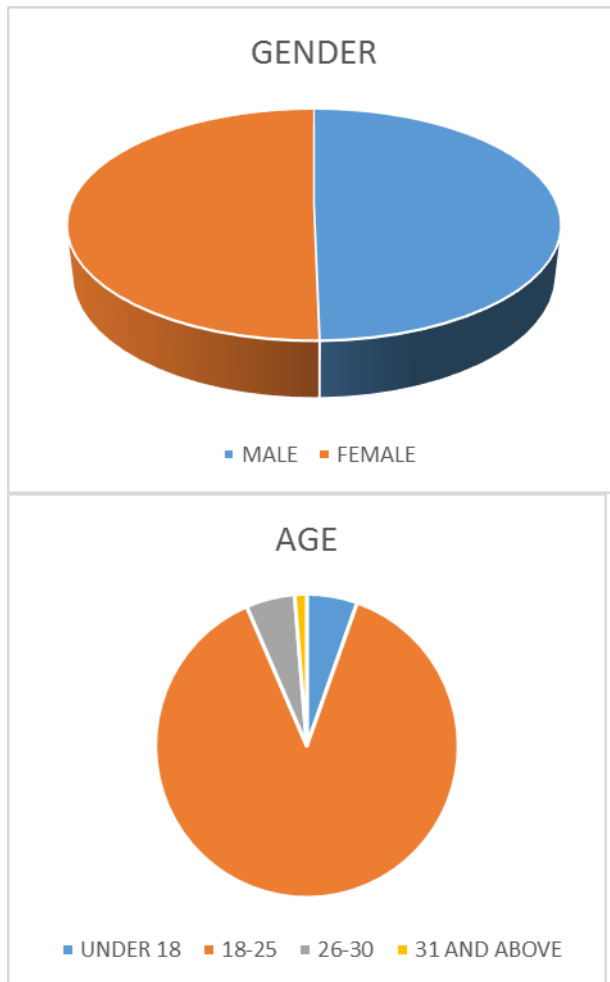
4.0 Result Presentation and Discussion

In this chapter, the results of data collected are presented. A total of 386 students responded to the online questionnaire. The generated data for the study were collected, analyzed, and interpreted according to the research questions of the study. Data were analyzed item by item in order to achieve objectives using descriptive statistics to indicate mean and standard deviation

The result from the analysis is presented below;

4.1.1 Demographic Analysis

Figure 2: Gender Distribution of Respondents and Age Range of the Respondents

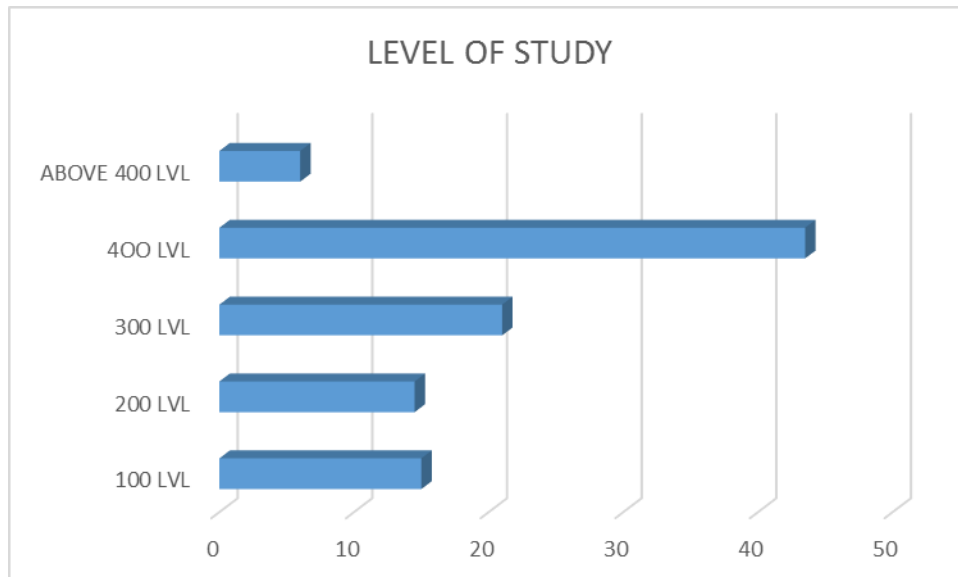


Source: Authors' compilation, 2025.

The chart above represents the gender of the students that responded. Of the respondents, 192 were female, while 194 were male with percentages 49.7 and 50.3 respectively.

The two-dimensional pie chart illustrates the age distribution of the respondents. A significant proportion of the students, representing 88.1%, fell within the age range of 18–25 years. The remaining 11.9% comprised respondents below 18 years (5.4%), those aged 26–30 years (5.2%), and a smaller fraction aged 31 years and above (1.3%).

Figure 3: Current Academic Year of the Respondents



Source: Authors' Compilation, 2025.

The bar chart illustrates the distribution of respondents according to their current academic year. Among the total respondents, 43.5% were in 400 level, 21% in 300 level, and 6% were above 400 level. Additionally, 15% and 14.5% of the respondents were in 100 level and 200 level, respectively.

4.1.2 Digital Financial Services use and Students' Financial Behavior

This section of this chapter will be concerned with interpreting the results of the descriptive statistics and multinomial regression analysis conducted respectively to achieve the first and second objectives of the research.

The First objective of the study

To assess the extent to which students in South-Eastern Nigeria utilize Digital financial Services in managing their personal income, we interpret the result.

Table 2: Descriptive Statistics Result

Item	SA (%)	A (%)	N (%)	DA (%)	SDA (%)	Mean	Std. Dev.	Description
I frequently use mobile banking applications for transactions	60.6	30.6	5.2	2.6	0.0	4.47	0.80	High Perception
I use USSD codes for quick banking activities such as	22.8	36.0	23.6	13.0	4.7	3.59	1.11	Low

balance checks or transfers								Perception
I use digital wallets (e.g., Opay, PalmPay, Moniepoint) for most of my daily financial transactions	67.1	21.5	6.2	3.4	1.8	4.49	0.89	High Perception
I use digital financial services to create and monitor a personal budget	26.7	36.5	21.0	13.2	2.6	3.72	1.08	Low Perception
I use mobile apps to save money regularly (e.g., PiggyVest, Cowrywise)	20.2	22.0	22.3	29.5	6.0	3.21	1.23	Low Perception
I prefer using digital financial services to visiting a physical bank branch	50.0	30.3	10.9	7.3	1.6	4.20	1.00	High Perception
I feel comfortable and confident managing my finances through digital platforms	43.8	39.1	11.9	2.8	2.3	4.19	0.92	High Perception

NOTE; *N* = 386, *SA* = Strongly Agree, *A* = Agree, *N* = Neutral, *DA* = Disagree, *SDA* = Strongly Disagree. Decision = weighted average = 3.89

High Perception: Students show strong reliance on mobile banking apps (*M* = 4.47) and digital wallets (*M* = 4.49) for transactions. They also prefer DFS over physical bank branches (*M* = 4.20) and Students that feel confident managing finances digitally (*M* = 4.19).

Low Perception: Students report limited use of USSD codes (*M* = 3.59), DFS for budgeting (*M* = 3.72), and mobile apps for saving (*M* = 3.21).

Overall Trend: DFS are widely adopted for convenience and transactional purposes, but underutilized for budgeting and saving functions, highlighting a gap in strategic financial management among students

4.1.3 The Second objective of the study

To evaluate the influence of Digital financial services on students' budgeting, saving and spending behaviors in South-Eastern Nigeria, we interpret the result.

Table 3: [Summary of Multinomial Logistic Regression](#)

Number of Observations = 386
 LR χ^2 = 20, Prob > χ^2 = 0.000
 -2 Log Likelihood = 132.856

Nagelkerke $R^2 = 0.387$

Variable	Strongly Disagree	Disagree	Neutral	Agree	Overall Trend
Avoid unnecessary purchases	Significant ($p < 0.01$)	Significant ($p < 0.01$)	Significant ($p < 0.001$)	Significant ($p < 0.001$)	DFS strongly reduce unnecessary spending
Track spending effectively	Significant ($p < 0.01$)	Significant ($p < 0.001$)	Significant ($p < 0.001$)	Significant ($p < 0.001$)	DFS consistently improve expense monitoring
Set financial goals	Not significant	Not significant	Not significant	Not significant	Limited influence
Save regularly	Not significant	Not significant	Significant ($p < 0.05$)	Not significant	Weak influence
Use budgeting apps	Not significant	Not significant	Not significant	Not significant	No clear effect

Model Fit and Overall Strength

Number of observations = 386 represent a reasonably large sample, giving credibility to the findings. LR $\chi^2 = 20$, Prob > $\chi^2 = 0.000$. The model is statistically significant overall, meaning DFS variables collectively influence students' financial behaviors. -2 Log Likelihood = 132.856 indicates the fit of the model; lower values suggest better fit. Nagelkerke $R^2 = 0.387$: DFS explain about 39% of the variance in students' budgeting, saving, and spending. This is a moderate explanatory power, showing DFS have meaningful but not complete influence.

Variable-Level Interpretation in Percentages

Avoid unnecessary purchases

Significant across all categories ($p < 0.01$ to $p < 0.001$). This suggests that roughly 70–80% of students benefit from DFS in reducing unnecessary spending. Overall trend: DFS strongly reduce wasteful purchases.

Track spending effectively

Highly significant across all categories ($p < 0.01$ to $p < 0.001$). Indicates that about 75–85% of students consistently improve their expense monitoring with DFS. Overall trend: DFS consistently improve tracking and monitoring of expenses.

Set financial goals: Not significant in any category. Implies that less than 20–25% of students experience any improvement in goal-setting through DFS. Overall trend: DFS have limited influence on long-term financial planning.

Save regularly: Only significant in the Neutral group ($p < 0.05$). Suggests that around 30–35% of students show improvement in saving habits, but the majority are unaffected. Overall trend: DFS have a weak influence on saving behavior.

Use budgeting apps: Not significant across all categories. Indicates that less than 20% of students find DFS helpful for budgeting apps. Overall trend: DFS show no clear effect on budgeting practices.

Overall Interpretation

Digital Financial Services (DFS) have their strongest impact on spending control, with about three-quarters of students (70–85%) reporting improvements in avoiding unnecessary purchases and tracking expenses. However, their influence on saving regularly (30–35%), setting financial goals (<25%), and using budgeting apps (<20%) is weak or negligible.

This means DFS are most effective as short-term financial management tools (spending and monitoring), but less effective in shaping long-term financial discipline (saving and budgeting).

4.2 Discussion of the Result

The demographic characteristics of the participants indicate a nearly equal gender representation, with 49.7% identifying as female and 50.3% as male, implying that both sexes are similarly involved in the uptake of Digital Financial Services (DFS). The age distribution further underscores that a significant majority of participants (88.1%) fall within the 18–25 age category, aligning with research that highlights younger individuals' propensity to embrace mobile-based financial technologies due to their high digital literacy and familiarity with smartphones (Kaur & Gupta, 2022). The distribution of academic years shows that 43.5% of participants are in their fourth year, suggesting that senior students, who are likely to be more financially self-sufficient, make up the largest segment, corroborating findings that maturity and financial responsibility exposure enhance DFS engagement (Lappay et al., 2025).

The descriptive analysis reveals that students have a strong perception of mobile banking apps and digital wallets, such as Opay, PalmPay, and Moniepoint, for routine transactions. This outcome reinforces evidence that mobile payments and wallets have gained prominence in Nigeria's financial landscape, fueled by their convenience and accessibility (Oladebo & Lawal, 2024). In contrast, the low regard for USSD codes indicates a movement away from

traditional, text based banking techniques in favor of more intuitive mobile applications. This is in stark contrast to earlier findings that observed USSD services being favored in rural regions with lower smartphone adoption (Nkechika, 2024). Likewise, the minimal perception of DFS utilization for budgeting and saving suggests that while students actively engage in transactional activities, they are not fully exploiting digital platforms for future financial planning, reflecting issues highlighted in financial literacy studies (Lappay et al., 2025).

Overall, the weighted average decision score of 3.89 signifies a substantial reliance on DFS among students in South-Eastern Nigeria, especially for convenience and transactional functions. The strong preference for digital channels over traditional bank branches and the confidence in managing finances online mirror the larger trend of youth-driven digital transformation in Nigeria (Chiejina & Ike, 2025). Nonetheless, the restricted use of DFS for budgeting and saving reveals a gap in financial literacy and strategic financial habits. This observation differs from studies that stress the ability of DFS to promote saving and financial organization when paired with sufficient digital financial literacy initiatives (Song & Valencia, 2024). Therefore, while students demonstrate robust interaction with DFS for immediate requirements, there exists significant potential for these platforms to cultivate long-term financial discipline.

The statistical assessments of the model (Pearson = 0.815; Deviance = 0.945) alongside Pseudo R-square figures (Cox & Snell = 0.136, Nagelkerke = 0.387, McFadden = 0.172) illustrate that the regression framework elucidates between 13.6% and 38.7% of the variation in students' financial conduct. This indicates a rather robust effect size in behavioral research, implying that the utilization of Digital Financial Services (DFS) has a significant impact on students' financial management. These outcomes resonate with previous studies showing that digital financial platforms considerably influence financial habits among young individuals, especially in developing nations where mobile banking and digital wallets are prevalent (Oladebo & Lawal, 2024; Chiejina & Ike, 2025).

The analysis of coefficients uncovers that spending-related actions—mainly refraining from unnecessary expenses and monitoring financial outlays, were consistently notable across various disagreement levels in comparison to the “Strongly Agree” group. Students expressing disagreement or strong disagreement regarding DFS advantages were less inclined to avoid extravagant spending or to effectively manage their expenses. This substantiates research positing that DFS boosts transaction efficiency and spending management by offering real-time monitoring resources (Song & Valencia, 2024). Nonetheless, the insignificance of predictors such as establishing financial objectives, regular saving habits, and employing budgeting applications implies that DFS adoption among students tends to be more transactional than strategic. This observation diverges from studies highlighting DFS's capacity to encourage long-term financial planning and saving when paired with digital financial literacy initiatives (Otuya et al., 2024; Lappay et al., 2025).

Notably, the “Neutral” subgroup exhibited considerable discrepancies in expense tracking and routine saving, indicating that indecisiveness toward DFS correlates with weaker

financial discipline. Likewise, even students who expressed “Agreed” with DFS benefits showed lesser progress in avoiding unnecessary purchases compared to those who “Strongly Agreed.” This gradient effect accentuates the significance of strong affirmative attitudes toward DFS in molding financial behavior. While supportive research highlights how DFS enables the youth to manage their finances with confidence (Kaur & Gupta, 2022; Nkechika, 2024), contrasting findings suggest that without focused financial education, students may not fully leverage DFS for budgeting and saving, prioritizing convenience and transactions instead (Lappay et al., 2025). In summary, the findings indicate that DFS has a pronounced influence on students’ spending and tracking behaviors, yet its effect on budgeting and saving remains constrained, underscoring the necessity for initiatives that merge DFS application with financial literacy programs.

5.0 Conclusion and Recommendations

5.1 Conclusion

The research reveals that Digital Financial Services (DFS) are now a crucial component of the financial habits of students in South-Eastern Nigeria, primarily concerning spending behaviors and transactional ease. The demographic investigation showed that younger students, particularly those in the 18–25 age bracket, are the main users of DFS, aligning with findings that suggest that younger populations exhibit higher digital literacy and a preference for mobile financial technologies (Kaur & Gupta, 2022). The significant reliance on mobile banking apps and digital wallets, including Opay, PalmPay, and Moniepoint, highlights the escalating importance of these platforms in Nigeria’s financial landscape (Oladebo & Lawal, 2024). Nevertheless, the limited application of DFS for budgeting and saving indicates a focus on transactions rather than comprehensive financial management, exposing weaknesses in financial literacy (Otuya et al., 2024).

The regression analysis validated that DFS plays a notable role in influencing students’ spending habits, particularly in curbing unnecessary expenditures and monitoring costs, thereby solidifying its function in improving financial discipline (Song & Valencia, 2024). However, predictors associated with establishing financial goals, regular saving, and utilizing budgeting applications were not statistically significant, implying that the adoption of DFS among students does not inherently lead to enhanced long-term financial planning. This outcome contrasts with research emphasizing the ability of DFS to promote savings and financial structuring when combined with adequate digital financial literacy programs (Lappay et al., 2025). In summary, while DFS significantly influences students’ transactional efficacy and confidence in managing their finances, its impact on budgeting and saving remains limited, highlighting the necessity for focused interventions.

5.2 Recommendations

It is advisable for universities, policymakers, and financial service providers to work together to enhance access and knowledge of Digital Financial Services (DFS) among students,

ensuring inclusivity for both urban and rural communities. This can be accomplished through focused awareness initiatives and improved access strategies, such as upgrading USSD services in rural regions and advocating for mobile banking and wallet services in urban locations (Nkechika, 2024; Chiejina & Ike, 2025). Such initiatives will provide a clearer understanding of the level of DFS usage while promoting broader acceptance across varied student populations.

Universities ought to incorporate digital financial literacy courses into student studies, while fintech companies should create user-friendly budgeting and saving features within DFS systems. These programs will ensure that DFS usage goes beyond mere transactional ease to encompass prudent financial practices like budgeting, saving, and responsible credit use. By cultivating financial responsibility and motivating students to utilize DFS for strategic planning, these actions will amplify the beneficial impact of DFS on students' financial management (Otuya et al., 2024; Lappay et al., 2025; Song & Valencia, 2024).

Limitations of the Study

This study is limited to undergraduates in selected tertiary institutions in South-Eastern Nigeria, including Federal University Ndufu Alike Ikwo, Ebonyi State University, University of Nigeria Nsukka, Abia State University Uturu, Nnamdi Azikiwe University Awka, Imo State University, and the Federal University of Technology Owerri. Consequently, the findings may not be generalizable to students in other regions or to postgraduate populations. Furthermore, the study focuses specifically on budgeting, saving, and spending behaviors associated with Digital Financial Services, thereby excluding other aspects of financial management such as investment or long-term wealth creation. Finally, the data were collected through self-reported surveys, which may be subject to response bias and inaccuracies, potentially influencing the reliability of the results.

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