

FINANCIAL DIGITAL LITERACY AND PROFITABILITY OF SMALL- SCALE ENTERPRISES IN PUBLIC TERTIARY INSTITUTIONS IN CROSS RIVER STATE, NIGERIA

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Abstract

The study investigated the relationship between financial digital literacy and profitability of small-scale enterprises in public tertiary institutions in Cross River State, Nigeria. To achieve the purpose of this study, two research questions were posed and modified into two null hypotheses. Correlation research design was considered appropriate for the study. The population of this study consisted of 4,206 registered small scale enterprises owners operating in public tertiary institutions in Cross River State. Proportionate proportionate stratified random sampling technique was adopted in selecting 421 registered small scale enterprises owners operating in tertiary institutions in Cross River State. 30 items of four-point rating scale questionnaire titled “Financial Digital Literacy and Profitability of Small-Scale Enterprises Questionnaire (FDLPSEQ)” was used for data collection. The instrument was validated by three experts while reliability was established using Cronbach Alpha Statistics, which yielded an overall reliability index of 0.70. To test for the study hypotheses, simple linear regression statistical tools was used for data analysis. The result obtained indicated that digital budgeting and investment significantly influence profitability of small-scale enterprise operators in tertiary institutions in Cross River State, Nigeria. Based on the findings, it was recommended among others that SSE operators should be encouraged to integrate both digital budgeting and digital investment strategies as a combined approach to ensure sustainable business growth, improved competitiveness, and long-term profitability.

Keywords: Financial Digital Literacy, Profitability of Small-Scale Enterprises, Public Tertiary Institutions, Cross River State, Nigeria.

1. INTRODUCTION

Small Scale Enterprises (SSEs) are organizations that are mostly owned and operated independently. Small scale enterprise is a business which is owned, led by one or a few persons with direct owner(s) influence in decision making, and having a relatively small share of the market and relatively low capital requirements. Small-scale businesses are commonly defined based on the number of employees and the value of assets or turnover. In Nigeria, the revised National Policy on MSMEs classifies small enterprises as businesses employing between 10 and 49 persons with annual turnover ranging from

₦25 million to less than ₦100 million, while medium enterprises employ between 50 and 199 persons (Omonona, et al., 2023). Small Scale Enterprises in universities are small businesses involved in providing services to students and staff alike in small scale ranging from business centers, provision stores, food vendors, cosmetics and book shops among others. Small Scale Enterprises in any university environment are more commonly involved in trading, provision of services and craft-production activities. The SSEs in Nigeria contribute significantly to the national economy and growth by the volume of employment they provide to the citizenry and by the amount of tax revenue it remits to the national coffers.

Small Scale Enterprises (SSEs) do not only represent the country's major opportunities for industrialization, but also contributes majorly to sustainable growth in the area of generation of employment opportunities and also poverty alleviation. The beauty of having a Small-Scale Enterprises (SSEs) is that it facilitates creation of jobs, reduces dependence on government, improves standard of living, alleviates social ills in the society and contributes to internally generated revenue of the universities. To this effect, SSEs provide convenience in goods and services at a very low cost to stimulate the institutions' economy. Despite their critical role in tertiary institutions, the researchers observed that some SSEs in tertiary institutions in Cross River State have not been managed efficiently to promote profitability. Worst still, it has been observed by the researchers with dismay that some Small-Scale enterprises have gradually folded up in tertiary institutions. Some SSEs in tertiary institutions in Cross River State, acclaimed to contribute tangibly in reducing unemployment as well as helping to improve the living standard of most unemployed graduates have gone into extinction. These worries on the impending cause of attrition of SSEs in tertiary institutions prompted the researchers carry out the study.

Despite this unwelcomed development, studies have shown that systematic exposure of small-scale business owners to financial digital literacy could be critical factor influencing the profitability and sustainability of small-scale enterprises. Adeyemi et al. (2023) reveal that entrepreneurs with adequate digital financial knowledge are better able to manage transactions, budgeting, digital payments, financial records, and investment decisions, thereby improving business profitability, operational efficiency, and long-term growth of small-scale enterprises. In this regard, (Akande et al. (2023) posit that in today's extremely competitive business environment, every firm needs creativity and

innovation to maintain its long-term viability. The introduction of technology into the lives of individuals has resulted in regular changes in our everyday lives

Financial digital literacy (FDL) is the combination of knowledge, skills and confidence required to safely and effectively use digital financial tools, products, and services. It emerges traditional financial literacy with digital competence, allowing users to make informed decisions and navigate fintech platforms such as banking apps, digital payment apps while protecting themselves from cyber risk. According to Respati et al. (2023) financial literacy in today digital age extends beyond traditional concept to include digital financial literacy. Furthermore, the author stipulated that with this increasing role of technology, it is pertinent that the small scale enterprise operators develop a strong understanding of digital finance in order to adapt to this technological shift. Similarly,

Lyons & Kass (2021) highlight that evaluating digital literacy involves several components such as the ability to shop online, utilize online space and mobile banking services, navigate financial service menus, initiate and complete digital financial transaction, as well as address errors even cancel transactions effectively. This was further discussed by Melinda Gates Foundation (2021) that digital financial literacy used digital financial tools, such as online banking, e-wallets, and all digital payment platforms to sharpen the financial skills of business owners. When small-scale business owners become acquainted with digital financial tools, they are better guided toward effective budgeting practices that enhance the profitability of small-scale enterprises.

Digital budget is a critical component of financial digital literacy. Digital budgeting is the use of digital tool, mobile applications, social media platforms via computer and mobile devices to systematically plan, monitor and manage income and expenditure of small-scale business. It can be using mobile apps, artificial intelligence, online banking platforms and financial management software to follow up financial records of business activities on campuses. Digital budgeting is done electronically, by ensuring that all business expenses are identified, including rent, transportation, salaries, utilities, internet subscription, and purchase of goods. When this is done properly, it becomes easier for small-scale business owners to engage in digital investment.

Digital investment directs a small-scale business owner to use digital technologies, online platforms, and electronic tools to improve business operations, financial management, savings, and investment decisions for future profitability and growth (Kusumawardhani ,2023). It covers the utilization of

digital devices such as Point of Sale (POS), mobile banking, internet banking, fintech applications, e-commerce platforms, digital budgeting tools, online marketing, and digital payment systems in tertiary institution for business services. In small-scale enterprises, digital investment helps business owners manage cash flow, reduce operational costs, increase sales, and improve financial decision-making. This helps small scale shop owners in campus to use a POS machine to accept payments through ATM card from customers, make automatic updates for daily sales, and monitor business income digitally. This improves financial management and supports better business decision.

It is therefore pertinent to note that, financial digital literacy enables 21st century small scale business owners in tertiary institution to understand and use effectively digital knowledge supported by technologies such as mobile banking, POS systems, online payments, digital budgeting tools, and fintech applications for business operations and financial management. Researches show that financial digital literacy plays a significant role in improving the profitability of small-scale enterprises by enhancing financial decision-making, budgeting, record keeping, savings, and investment practices. Business owners with strong financial digital literacy are better able to adopt digital financial services, reduce operational costs, increase transaction efficiency, expand customer reach through digital platforms, improve overall business performance and sustainability. Financial digital literacy could positively influence the profitability and growth of medium-scale enterprises by promoting efficient financial management and digital investment practices.

This notwithstanding, the profitability of some of these SSEs in universities and colleges of education is still in doubt. It has been observed that the profit generated overtime from these SSEs may not be able to cater for their daily needs as business owners. Some of these businesses have not expanded, since the inception of the business. From interactions with some of these business owners in campuses, the researchers discovered that a number of employees has reduced to either one or two as business owners do not have enough cash reserves to attend to business emergencies. In addition, some of these SSEs in universities in Cross River State have gone into extinction no sooner than they were established. One wonders if this problem could be solved by small scale business owners' financial digital literacy? Could their financial digital literacy with profitability of their enterprises in tertiary institutions in Cross River State? Hence, the need for the study.

1.1 Purpose of the Study

The main purpose of this study is to determine the relationship between financial digital literacy and profitability of small- scale enterprises in public tertiary institutions in Cross River State, Nigeria. Specifically, the study sought to investigate the relationship between:

1. Digital budgeting and profitability of small-scale enterprises operators in tertiary institutions in Cross River State.
2. Digital investment and profitability of small- scale enterprises operators in tertiary institutions in Cross River State.

1.2 Research Questions

1. To what extent does digital budgeting relate with profitability of small -scale enterprises operators in tertiary institutions?
2. What is the relationship between digital investment and profitability of small -scale enterprises operators in tertiary institutions?

1.3 Statement of Hypotheses

1. Digital budgeting does not significantly relate with profitability of small-scale enterprises operators in tertiary institutions
2. There is no significant relationship between digital investment and profitability of small-scale enterprises operators in tertiary institutions

2. LITERATURE REVIEW

2.1 Digital Budgeting on Profitability of Small-Scale Enterprises Operators

A budget is a comprehensive and formal plan that estimates the future expenditures and income for an organization over a specific period. Budget is a process of creating a financial plan that outlines the expected income, expenditures, and resource allocation for a specific period (Taxmann, 2024). In modern era, the evolutionary trends of technology have birthed digital budgeting where small scale business owners use digital technologies, software applications, and online financial tools to plan, monitor, control, and evaluate income and expenditure in within the university's environment. Digital budgeting covers activities of small-scale business owners who operate food and restaurants, provision shops, Point of Sale (POS), computer operators and stationaries. Digital Budgeting possesses the potential to enhance adaptability in addressing swiftly evolving external environments (Salahudin et al.,2024). In addition, digital budgeting plays a pivotal role in minimizing budgetary waste,

pinpointing savings opportunities, and enhancing overall financial performance (Bogoslavtseva et al., 2020)

The essences on embarking digital budgeting are to maximize high profits, increase business coverage, improved accountability and sustainable financial performance in the universities. Digital budgeting assists business owners to analyze, interpret financial records quickly, make inputs and evaluate the outcome of the business. According to Piosik & Karmańska, (2023), the implementation of emerging technology including digital budgeting necessitates adjustments in both cost structures and information required for effective management. This includes expanding the utilization of management accounting systems and methodologies. The level of technological advancement within an organization can directly impact budgeting processes. This is because most business outfits and entrepreneurs, in practice, apply budgeting as a tool for planning, a method of day-to-day management of their businesses, which, according to assumptions, allows management to streamline the business activities and minimize the economic risk. Budgeting creates opportunities for a small-scale business owner to allocate resources in a quantitative, meaningful continually, in controlled and modified way.

According to Salahudin et al., (2024), primarily, the use of digital budget is necessary because of: the complexity of the processes of business management, a large change in the dynamics of the conditions of external environment, increasing the possibility to use alternative solutions and increasing opportunities for mistakes, the consequences of which may be acute for the production company. Digital budgeting is useful as a control tool for evaluating the performance and financial progress of small-scale businesses at any given point in time. Through the use of digital budgeting tools such as mobile banking applications, accounting software, spreadsheets, and online financial platforms, small-scale business owners can track sales, expenses, cash flow, and variable costs regularly. This enables monitoring of financial activities monthly; business owners can determine the financial position of their businesses and identify strategies for growth and profitability. For instance, a business may experience a significant increase in sales from one month to another, but without analyzing digital financial records and budgeting reports, the owner may not understand the actual costs, profit margins, or operational efficiency.

Furthermore, digital budget analysis helps business owners to plan effectively during seasonal fluctuations instead of relying on guesswork. As business owners continuously develop and review

digital budgets, they become better at forecasting future revenues, expenditures, and investment opportunities. Unfortunately, many small-scale business owners prepare budgets without consistently consulting or updating them digitally, thereby missing the benefits of effective financial management and encountering record misappropriation. For startup entrepreneurs, digital budgeting serves as a financial roadmap that helps in goal setting, business planning, and evaluating the viability of business ideas, while established businesses use digital budgets to assess performance over time and identify future investment opportunities.

In this regard, Gladys et al., (2024) carried out a study to investigate effects of budget planning on financial performance of selected SMEs in Eldoret town, Kenya, moderated by digital financial services. The specific objectives of the study were to examine the influence of budget planning on financial performance and effect of digital financial services on financial performance. The study was designed to assess the moderating role of digital financial services on the relationship between budget planning and financial performance of selected SMEs. The research was guided by the Priority-Based Budgeting Theory and Resource Based Theory. The study utilized explanatory research design and descriptive research design. Simple random sampling techniques in collecting data from 302 selected SMEs using structured questionnaires. Cronbach alpha was applied to test reliability while Factor analysis was applied to test validity. Using SPSS version 23 hierarchical regression model was employed in data analysis and testing of the hypotheses. The results reveal that digital finance services had significantly positive relationship between budget planning and financial performance. This study indicated that digital budgeting including plays significant in financial managements and profitability of small-scale business owners.

Digital budgeting contributes significantly to the profitability of small-scale businesses because it enables business owners to effectively plan, monitor, and control financial activities using digital tools such as accounting software, mobile banking applications, spreadsheets, and cloud-based budgeting systems. Through regular monitoring of revenues, expenses, and cash flow, business owners become better at forecasting future financial needs, reducing unnecessary spending, identifying profitable opportunities, and making informed business decisions. Digital budgeting also improves financial discipline, transparency, and accountability, thereby helping entrepreneurs detect financial shortfalls early and increase operational efficiency. For startup entrepreneurs, digital budgeting serves as a roadmap for goal setting and business sustainability, while established businesses use it to evaluate performance, improve profit margins, and attract investors or financial support. Annisa et al., (2024)

further revealed that digital financial services and budgeting practices positively influence the financial performance and profitability of small and medium-scale enterprises.

2.2 Digital Investment on Profitability of Small- Scale Enterprises Operators

Digital investment is the adoption and integration of digital technologies, online platforms, and electronic financial tools to invest money, improve business operations, or generate future financial returns. It involves investing in digital assets, technologies, or systems such as mobile banking, e-commerce platforms, digital marketing, cloud accounting software, financial technology (fintech), cryptocurrencies, online trading platforms, and automated business tools. For small-scale enterprises in universities environment, digital investment may include purchasing computers, internet services, point-of-sale (POS) systems, accounting software, social media advertising, or adopting mobile payment systems to improve efficiency, customer reach, and profitability. Digital investment helps businesses reduce operational costs, increase productivity, enhance financial management, and expand market opportunities in the digital economy. Digital investment plays a significant role in enhancing the profitability of small-scale enterprise (SSE) operators in the modern business environment. Investment behaviour is critical to the future growth and sustainability of any business because investment decisions directly influence profitability, productivity, and long-term performance.

Inayah & Susliyanti (2025) advocate that digital investment through technologies such as mobile banking, cloud accounting, digital marketing, e-commerce platforms, fintech solutions, and automated accounting systems significantly improves the operational efficiency and profitability of small businesses. Business investment decisions are often reflected in the assets and digital resources acquired by enterprises, which contribute to the overall financial structure and competitive strength of the business. Financial literacy and digital financial knowledge also enhance the ability of SSE operators to make prudent investment decisions, especially in areas relating to digital tools and financial technologies. Yahaya and Bello (2026) established that mobile banking, digital lending platforms, fintech solutions, and alternative financing mechanisms significantly improve SMEs' access to capital and growth in Nigeria. Consequently, continuous training in digital financial literacy and technology adoption helps small-scale enterprise (SSE) operators make informed investment decisions, improve sustainability, and enhance long-term business planning (Ratnawati et al.,2024).

Cash flow budget provides aggregate data regarding all cash inflows and outflows of a small-scale business. The cash flow budget is determined by looking at three components by which cash enters and leaves a business core operations, investing and financing (Mubarok 2023). It allows investors to understand how an entrepreneur's operations are running, where its money is coming from, and how it is being spent. Many small businesses try to operate without a formal budget. The significance of investment decision is to ascertain the financial performance of SSEs is vital. The investment decision is purely a strategic decision, as it always affects the financial and human resources of the SSEs and this is the only way that managers of SSEs can keep the business alive and functional for a longer period of time. Thus, the implementation of the investments decisions is critical for a company

Investment decisions involve the thought process of selecting a logical choice from the available options. When trying to make a good decision, the decision maker must weigh the positives and negatives of each option, and considers the best option deem necessary to produce maximum profits. In addition, identification of an investment opportunity is the most difficult part of the capital investment process. Indeed, for many businesses, and particularly small ones, it is the only stage. Literacy in digital investment refers to the ability of business owners to identify viable digital investment opportunities, evaluate alternative options, access and interpret relevant financial and technological information, and make informed investment decisions that support business growth. In the context of small and medium-scale enterprises (SMEs), digital financial literacy enhances entrepreneurs' ability to adopt fintech tools, compare investment alternatives, and integrate digital technologies into financial decision-making for improved efficiency and profitability. However, many SME operators still make investment decisions without applying structured digital investment appraisal methods, which limits their capacity to optimize returns and manage financial risks effectively. Recent studies show that SMEs with stronger digital financial literacy are better positioned to adopt financial technologies, evaluate investment opportunities, and achieve sustainable business performance and long-term planning (Kurniasari et al., 2023; Santoso et al., 2024; Hussaini et al., 2025).

Business owners who are often responsible for management of small-scale business are faced with two important decisions - investment and funding. The right investment decisions and choice of funding sources are important because they affect the business financial performance. The selection of the types of assets to be invested and the right types of financing sources result in optimal returns

for the company. It reflects good business performance and future prospects. In addition, optimal return is a good sign for investors and businesses that perform well, experience increase in their value. In a business world characterized by dynamism and uncertainty, entrepreneurs are confronted with a multitude of challenges daily, but most of them can be overcome or effectively solved with the help of financial literacy. Entrepreneurs should therefore be able to make complex financial decisions in daily life, from private matters such as housekeeping to key business decisions (Siegfried, 2021). Most academics agree that entrepreneurs, regardless of their age, are routinely involved in decision-making that involves the acquisition and use of resources, which almost always include financial consequences

Ishola et al. (2025) carried out a study to investigate the influence of digital transformation on the performance of Small and Medium sized Enterprises (SMEs) in Lagos, Abuja, and Port Harcourt, Nigeria. Digital technologies such as cloud computing, artificial intelligence (AI), and big data analytics are reshaping business globally, and Nigerian SMEs are increasingly adopting these innovations. However, the adoption rate varies due to factors like technological infrastructure, digital literacy, and financial capacity. Data from 200 SMEs were analysed using ANOVA in SPSS to evaluate the relationship between digital adoption and key performance indicators, including operational efficiency, revenue growth, and customer engagement. The findings indicate that SMEs with higher digital adoption reported significant improvements, including a 15% revenue growth, while those with lower adoption saw gains below 5%. Challenges such as high costs, limited digital skills, and inadequate infrastructure hinder wider adoption. The study provides recommendations for enhancing SME access to digital tools for sustainable growth and competitiveness in the global marketplace.

3. METHODOLOGY

Research design adopted for the study was correlational research design. This design was chosen because the research sought to investigate the relationship between the two variables - financial literacy and profitability of small-scale enterprises owners operating in public tertiary institution. The population of the study was 4,206 registered small scale enterprise owners operating in public tertiary institutions in Cross River State. A proportionate stratified random sampling technique was appropriate for this study because the population of 4,206 registered small-scale enterprise owners was drawn from different public tertiary institutions in Cross River State, thereby ensuring that all institutions were adequately represented in the sample.

The researchers first grouped the enterprise owners according to their respective public tertiary institutions (strata), after which proportionate allocation was used to determine the number of respondents selected from each institution based on the size of their population. Thereafter, simple random sampling was employed within each stratum to select the 421 registered small-scale enterprise owners who participated in the study. The sample size of 421 registered small scale enterprises owners operating in public tertiary institution were chosen for the study. The instrument for the collection of data was the questionnaire titled 'Financial Digital Literacy on Profitability of Small- Scale Enterprise Questionnaire (FDLPSSEQ). The questionnaire was divided into two sections: A and B. Section A elicited information on the respondents' demographic data, such as name of institution. Section B had forty (30) items designed to elicit information from the respondents on the sub-independent variables of the study. The FLPSSSEQ had four points response options of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) measuring profitability of small-scale enterprises and Very High (VH), High (H), Moderate (M) and Low (L) measuring digital budgeting and digital investment. Hence, 10 items each elicited information on financial literacy sub-variables such as digital budgeting and digital investment while 10 items elicited information on the dependent variable, that is, profitability of small-scale enterprises. The questionnaire was validated by three experts, two from Business Education Department and One from Measurement and Evaluation Department in College of Education, University of Calabar, Cross River State. The instrument was tested for internal consistency method using Cronbach Alpha which yielded a reliability index of 0.70. Data obtained from the sample were statistically analyzed using Simple Linear Regression.

4. RESULTS

Simple Linear Regression Analysis was used to answer research questions used in answering the research questions and summary of the data.

Research Question One

To what extent does digital budgeting relate with profitability of small -scale enterprises operators in tertiary institutions? The presentation is shown in Table 1.

Table 1: Result of Linear Regression of Digital Budgeting and Profitability of Small -Scale Enterprises operators in tertiary institutions

R	R Square	Adjusted R Square	Std. Error of The Estimate	R Square Change		
.183 ^a	.031	.020	16.45578	.031		
Source of variation	Sum of square	Df	Mean square	F	p-value	
Regression	2931.213	1	2931.213	11.04*	.005	
Residual	33123.201	420	78.86			
Total	23973.081	421				
Variable	Unstandardized Coefficients B	Std. Error	Standardized Coefficient Beta	T	p-value	
(Constant)	54.760	4.256		9.876	.000	
Profitability of Small -Scale Enterprises operators	.865	.402	.261	4.292	.005	

The result in Table 1 revealed that there was a positive relationship between digital budgeting and profitability of small-scale enterprise operators in tertiary institutions. The regression coefficient ($R = .183$) indicated a low positive relationship between the predictor variable (digital budgeting) and the criterion variable (profitability of small-scale enterprises operators). The coefficient of determination ($R^2 = .031$) showed that digital budgeting accounted for 3.1% of the variance in the profitability of small-scale enterprise operators in tertiary institutions, while the remaining 96.9% could be attributed to other variables not included in the study. Furthermore, the ANOVA result showed that the regression model was statistically significant with $F(1, 420) = 11.04$, $p < .05$. This implies that digital budgeting significantly influenced the profitability of small-scale enterprise operators in tertiary institutions. The regression coefficient ($\beta = .261$, $t = 4.292$, $p = .005$) further confirmed that digital budgeting had a positive and significant contribution to the profitability of small-scale enterprises operators in tertiary institutions.

Research Question Two

Digital investment and profitability of small- scale enterprises operators in tertiary institutions in Cross River State. The presentation is shown in Table 2.

Table 2: Result of Linear Regression of Digital Investment and Profitability of Small- Scale Enterprises Operators in tertiary institution

R	R Square	Adjusted R Square	Std. Error of The Estimate	R Square Change		
0.194	.035	.022	17.0381	.035		
Source of Variance	Sum of square	Df	Mean square	F	p-value	
Regression	3018.219	1	3018.219	12.20*	.012	
Residual	34192.293	420	172.802			
Total	26042.346	421				
Variable	Unstandardized Coefficients B	Std. Error	Standardized Coefficient Beta	T	p-value	
(Constant)	36.908	5.839		10.024	.000	
Profitability of Small -Scale Enterprises operators	.939	.548	.307	5.319	.012	

The result in Table 2 revealed that there was a positive predictive relationship between digital investment and profitability of small-scale enterprise operators in tertiary institutions in Cross River State. The regression coefficient ($R = 0.194$) indicates a low positive relationship between the variables, while the R Square value of 0.35 showed that digital investment accounted for 3.5% of the variance in the profitability of small-scale enterprise operators. This implies that digital investment contributed significantly to the profitability of small-scale enterprise operators in tertiary institutions in Cross River State. Furthermore, the analysis of variance (ANOVA) result showed an F-value of 12.20 with a corresponding p-value of .012, which is less than the 0.05 level of significance. This indicates that the regression model was statistically significant and that digital investment significantly predicted profitability among small-scale enterprise operators. The regression coefficient further revealed that digital investment had a positive influence on profitability of small-scale enterprise operators ($\beta = .307$, $t = 5.319$, $p < .05$). This means that an increase in digital investment would likely lead to an increase in the profitability of small-scale enterprise operators in tertiary institutions in Cross River State.

Hypothesis One

Digital budgeting does not significantly relate with profitability of small-scale enterprises operators in tertiary institutions. The presentation is done in Table 3.

Table 3: Result of Linear Regression of Digital Budgeting and Profitability of Small-Scale Enterprises Operators in Tertiary Institutions.

R	R Square	Adjusted R Square	Std. Error of The Estimate	R Square Change		
.183 ^a	.031	.020	16.45578	.031		
Source of variation	Sum of square	Df	Mean square	F	p-value	
Regression	2931.213	1	2931.213	11.04*	.005	
Residual	33123.201	420	78.86			
Total	23973.081	421				
Variable	Unstandardized Coefficients B	Std. Error	Standardized Coefficient Beta	T	p-value	
(Constant)	54.760	4.256		9.876	.000	
Profitability of Small-Scale Enterprises operators	.865	.402	.261	4.292	.005	

*p< .05

The result of the table revealed that the calculated F-value of 11.04 is greater than the critical F-value at 1 and 420 degree of freedom and at 0.05 level of significance. Since the p-value of .005 is less than .05, the null hypothesis was rejected. This implies that there is a significant predictive relationship between profitability of small-scale enterprises operators and the dependent variable under study. The regression coefficient R of .183 indicates a low positive relationship between the predictor variable and the criterion variable, while the R Square value of .031 shows that 3.1% of the variance in the dependent variable was explained by profitability of small-scale enterprises operators. The adjusted R Square of .020 further indicates that after adjustment, the model explained about 2.0% of the variance in the outcome variable. The standard error of estimate of 16.45578 shows the average deviation of the observed values from the regression line. To test the significance of the regression model, a t-test analysis was carried out. The regression constant of 54.760 and the regression coefficient of .865 were subjected to testing. The result showed that profitability of small-scale enterprises operators

contributed significantly to the prediction of the dependent variable, as indicated by the t-value of 4.292 and p-value of .005, which is less than the 0.05 level of significance. The mathematical relationship of the regression model is depicted by the following equation. $Y = 54.760 + 0.865X$ where Y= Digital Budgeting and X is Profitability of Small-Scale Enterprises Operators.

Hypothesis Two

There is no significant relationship between digital investment and profitability of small-scale enterprises operators in tertiary institutions. The presentation is done in Table 4.

Table 4: Result of Linear Regression of Digital Investment and Profitability of Small- Scale Enterprises Operators in tertiary institution

R	R Square	Adjusted R Square	Std. Error of The Estimate	R Square Change		
0.194	.035	.022	17.0381	.035		
Source of Variance	Sum of square	Df	Mean square	F	p-value	
Regression	3018.219	1	3018.219	12.20*	.012	
Residual	34192.293	420	172.802			
Total	26042.346	421				
Variable	Unstandardized Coefficients B	Std. Error	Standardized Coefficient Beta	T	p-value	
(Constant)	36.908	5.839		10.024	.000	
Profitability of Small -Scale Enterprises operators	.939	.548	.307	5.319	.012	

*p< .05

The result of the linear regression analysis revealed that the calculated F-value of 12.20 is greater than the level required for significance at 0.05 with 1 and 420 degrees of freedom. Since the p-value (.012) is less than 0.05, the null hypothesis was rejected. This indicates that there is a significant predictive relationship between digital investment and profitability of small-scale enterprises operators in tertiary institutions. The regression coefficient R of .194 indicates a low positive relationship between digital investment and profitability, while the R Square value of .035 implies that digital investment accounted for 3.5% of the variance in the profitability of small-scale enterprises operators. The

adjusted R Square of .022 further shows that after adjustment, the predictive contribution remained low but significant. The standard error of estimate of 17.0381 indicates the average deviation of the observed values from the regression line. To test the significance of the regression constant and regression coefficient in predicting profitability of small-scale enterprises operators, a t-test analysis was conducted. The result showed that the regression constant of 36.908 and the regression coefficient of .939 significantly contributed to the prediction of profitability, as indicated by the t-value of 5.319 and p-value of .012, which is less than 0.05. This means that an increase in digital investment leads to a corresponding increase in profitability of small-scale enterprises operators in tertiary institutions. The mathematical relationship of the regression model is depicted by the following equation. $Y = 36.908 + 0.939X$ where Y = Digital Investment and x is Profitability of Small-Scale Enterprises Operators.

5. DISCUSSION OF FINDINGS

5.1 Digital Budgeting and Profitability of Small-Scale Enterprises Operators

The finding of this study revealed that there is a significant predictive relationship between digital budgeting and profitability of small-scale enterprises operators in tertiary institutions. This implies that the adoption of digital budgeting tools such as accounting software, mobile banking applications, spreadsheets, and online financial platforms significantly improves the financial performance of small-scale business owners. The finding agrees with Taxmann (2024), who described budgeting as a formal financial plan for estimating income and expenditures for effective financial management. The result also supports Salahudin et al. (2024), who noted that digital budgeting enhances adaptability in rapidly changing business environments and helps entrepreneurs minimize financial waste, improve accountability, and increase profitability.

Through effective digital budgeting, small-scale business operators are able to monitor revenues, control expenses, evaluate cash flow, and make informed financial decisions that enhance business sustainability and profit generation within the university environment. The finding further corroborates the views of Bogoslavtseva et al. (2020) and Piosik and Karmańska (2023), who emphasized that digital budgeting improves financial performance by strengthening management accounting systems, reducing economic risks, and enhancing operational efficiency. The result is also consistent with the empirical study of Gladys et al. (2024), which revealed that digital financial services significantly improved the relationship between budget planning and financial performance among SMEs in Kenya.

Similarly, Annisa et al. (2024) found that digital budgeting and financial services positively influence the profitability of small and medium-scale enterprises.

This suggests that small-scale enterprises operators who consistently utilize digital budgeting practices are more capable of forecasting future financial needs, identifying investment opportunities, improving resource allocation, and achieving sustainable profitability compared to those relying on manual budgeting methods.

5.2 Digital Investment and Profitability of Small- Scale Enterprises Operators

The finding of this study revealed that there is a significant predictive relationship between digital investment and profitability of small-scale enterprises (SSE) operators in tertiary institutions. This implies that SSE operators who invest in digital technologies such as mobile banking, POS systems, cloud accounting software, e-commerce platforms, internet services, and digital marketing are more likely to improve their profitability. The result may be attributed to the fact that digital investment enhances operational efficiency, reduces business costs, improves financial management, and expands customer reach. This finding supports the view of Inayah and Susliyanti (2025), who stated that digital investment through fintech solutions, mobile banking, cloud accounting, and automated business systems significantly improves the operational efficiency and profitability of small businesses. Similarly, Yahaya and Bello (2026) established that digital financial platforms and fintech solutions improve SMEs' access to capital and business growth in Nigeria. The finding further agrees with Ratnawati et al. (2024), who noted that continuous training in digital financial literacy and technology adoption helps SSE operators make informed investment decisions, improve sustainability, and enhance long-term business planning.

The finding also aligns with Kurniasari et al. (2023), Santoso et al. (2024), and Hussaini et al. (2025), who reported that SMEs with stronger digital financial literacy are better able to adopt financial technologies, evaluate investment opportunities, and achieve sustainable business performance. This suggests that digital investment literacy enables business owners to identify viable digital opportunities and apply appropriate investment strategies that improve returns and reduce financial risks. Furthermore, the finding corroborates Ishola et al. (2025), who found that SMEs with higher digital adoption recorded greater improvements in operational efficiency, customer engagement, and revenue growth than those with lower digital adoption. Therefore, the significant relationship observed

in this study indicates that digital investment has become an important strategy for improving profitability, competitiveness, and sustainability of small-scale enterprises operating within tertiary institutions.

6. CONCLUSION

In conclusion, the study established that both digital budgeting and digital investment have significant predictive relationships with the profitability of small-scale enterprises operators in tertiary institutions, indicating that the adoption of digital financial tools and technologies enhances financial performance. Therefore, SSE operators who effectively utilize digital budgeting and invest in digital technologies are more likely to achieve improved profitability, efficiency, and long-term business sustainability compared to those who rely on traditional financial practices.

7. RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made:

1. Small-scale enterprises operators in tertiary institutions should adopt and consistently use digital budgeting tools such as accounting software, mobile banking applications, and spreadsheet-based systems to improve financial planning, monitor cash flow, and enhance profitability.
2. SSE operators should also increase their investment in digital technologies such as POS systems, e-commerce platforms, cloud accounting software, and digital marketing tools, as these have been shown to improve operational efficiency, expand market reach, and boost overall business performance.
3. Finally, SSE operators should be encouraged to integrate both digital budgeting and digital investment strategies as a combined approach to ensure sustainable business growth, improved competitiveness, and long-term profitability.

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