

Original Article

# Digital Change on the Performance of Food and Consumer Goods Units in South-South Nigeria

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**Abstract** - This study examined the effect of digital change on the performance of food and consumer goods units in South-South Nigeria. The study focused on two key areas: how digital tools influence operational efficiency and how digital strategies contribute to market growth. We adopted a descriptive research design with a quantitative approach. Data were obtained from secondary sources, specifically annual reports and operational records of selected food and consumer goods units in South-South Nigeria covering ten years. Multiple regression analysis was carried out using Microsoft Excel Data Analysis ToolPak. Findings show that digital change has a significant effect on operational efficiency. IT investment, automation adoption, and digital training expenditure jointly improved production output per employee. The result further shows that digital strategies significantly affect market growth, with digital marketing spend and customer support digitalization driving sales volume growth. The study concludes that digital change is critical for performance improvement and recommends increased investment in IT infrastructure, automation tools, staff digital training, and stronger digital marketing presence.

**Keywords** - Digital Change, Operational Efficiency, Market Growth, Food and Consumer Goods Units, South-South Nigeria.

## 1. Introduction

Food and consumer goods businesses in South-South Nigeria are increasingly relying on digital tools such as Point-of-Sale (POS) systems, inventory management software, online ordering platforms, and social media marketing. These tools are changing how daily operations are managed and how businesses interact with customers. This study looks at the extent to which these tools affect performance in this sector using data covering 2025-2026.

We acknowledge some limitations. Some firms were reluctant to release internal performance records due to confidentiality. The study was also constrained by time and resources, which limited coverage of all units in the region. As a result, findings are specific to food and consumer goods units in South-South Nigeria and should be applied with caution to other sectors or regions. Despite this, the study provides practical insights on how digital change shapes business performance.

## 2. Literature Review

### 2.1. Digital Change

Digital change refers to the integration of digital technologies into core business operations to improve

efficiency, productivity and overall performance. In food and consumer goods businesses, this covers automation, inventory management systems, e-commerce platforms, data analytics and digital marketing approaches that improve service delivery and customer satisfaction. In South-South Nigeria, many businesses in this sector have adopted digital tools to remain competitive. The COVID-19 pandemic sped up this shift, pushing firms toward online sales, digital payments and remote supply chain coordination. Existing studies indicate that digital transformation has a positive effect on organizational performance. Samson (2024) found that firms using digital technologies recorded better operational efficiency and faster decision-making. Oladejo, Akintunde and Yinus (2024) reported higher sales and wider market reach among Nigerian food and consumer goods companies that used digital marketing and e-commerce platforms. Adedeji and Adelowotan (2023) stressed that organizational readiness matters for successful transition, pointing to ICT infrastructure, staff training and management support as critical factors in effective digital change implementation.

### 2.2. Operational Efficiency

Operational efficiency refers to the capacity of food and consumer goods units in South-South Nigeria to deliver



products and services while utilizing minimal resources. In a resource-limited setting, efficient operations enable companies to lower costs and maintain their competitive edge (Azad, Raza & Zaidi, 2018). For businesses in this sector, operational efficiency can be observed in areas such as inventory management, sales processing, and delivery times. Time efficiency is a crucial element of operational efficiency. It reflects a firm's ability to complete tasks in the shortest possible time without wasting resources (Santoso, 2014). In food and consumer goods units, time efficiency entails promptly processing customer orders, timely restocking of shelves, and minimizing waiting times at the point of sale. A time-efficient unit can effectively schedule staff, assign tasks, and leverage digital tools to automate repetitive processes like record keeping and billing (James, Mwangi & Mukaria, 2023). Digital tools such as POS systems and inventory management software can assist food and consumer goods units in South-South Nigeria by saving time and reducing errors. By automating sales records and stock tracking, these units can cater to more customers within a specific timeframe while maintaining product quality (Azad et al., 2018).

### 2.3. Market Growth

Market growth pertains to the increase in sales volume and customer base for food and consumer goods units over a defined period. It serves as a crucial measure of business performance in the retail sector (Onafadeji & Adeniran, 2021). For food and consumer goods units in South-South Nigeria, market growth may stem from expanded product lines, entry into new markets, and improved customer service. This sector's growth is often influenced by shifts in consumer preferences, heightened demand for packaged and processed foods, and the adoption of digital marketing platforms. For instance, utilizing WhatsApp, Facebook, and online ordering systems enables units to connect with more customers beyond their immediate vicinity. This can result in increased sales and revenue over time (Bhasin, 2008). However, market growth also brings increased operational demands. Rising sales necessitate improved inventory management, quicker supply chains, and consistent product quality to uphold customer trust.

## 3. Materials and Methods

This study utilized a descriptive research design to examine the effect of digital change on the operational efficiency and market growth of Food and Consumer Goods Units in South-South Nigeria.

A quantitative approach was adopted, and data were analyzed using statistical tools to assess the relationship between digital change and firm performance (Bryman & Bell, 2015).

### 3.1. Sources of Data

The study relied on secondary data gathered from annual reports, financial statements, and operational records of selected Food and Consumer Goods Units in South-South Nigeria over a span of 10 years.

### 3.2. Method of Data Analysis

Multiple regression analysis was used to test the hypotheses using Microsoft Excel Data Analysis ToolPak, with a significance level set at 5 percent. The decision rule stated that if the p-value is less than 0.05, the null hypothesis would be rejected.

#### 3.2.1. Model 1: Operational Efficiency

$Y1 = b0 + b1X1 + b2X2 + b3X3 + \epsilon$  - Where  $Y1$  = Production Output per Employee,  $X1$  = IT Investment,  $X2$  = Automation Adoption,  $X3$  = Digital Training Expenditure.

#### 3.2.2. Model 2: Market Growth

$Y2 = b0 + b1X1 + b2X2 + \epsilon$  - Where  $Y2$  = Sales Volume Growth,  $X1$  = Digital Marketing Spend,  $X2$  = Customer Support Digitalization.

## 4. Results and Discussion

**Descriptive Statistics:** The results indicate that Food and Consumer Goods Units in South-South Nigeria have invested in IT, automation, digital training, digital marketing, and customer support digitalization during the period covered.

**Table 1. Descriptive statistics of digitalization investments and organizational performance indicators in food and consumer goods units in South-South Nigeria**

| Variable                                  | Mean | Standard Deviation | Min | Max |
|-------------------------------------------|------|--------------------|-----|-----|
| IT Investment (₦M)                        | 700  | 150                | 500 | 900 |
| Automation Adoption (percent)             | 60   | 10                 | 50  | 75  |
| Digital Training Expenditure (₦M)         | 50   | 15                 | 30  | 70  |
| Digital Marketing Spend (₦M)              | 120  | 20                 | 90  | 150 |
| Customer Support Digitalization (percent) | 75   | 12                 | 60  | 85  |
| Sales Volume Growth (percent)             | 10   | 3                  | 6   | 14  |
| Production Output per Employee            | 200  | 25                 | 160 | 230 |

Source: Author's Computation, 2026

#### 4.1. Test of Hypotheses

##### 4.1.1. Hypothesis One

H01: Digital change had no significant effect on operational efficiency. R-squared = 0.79, F-statistic significant with  $p < 0.05$ . IT investment ( $p=0.014$ ) and digital training ( $p=0.042$ ) are significant. H01 is rejected.

**Table 2. Regression results for operational efficiency**

| Predictor Variable            | Coefficient | Standard Error | t-Statistic | P-Value |
|-------------------------------|-------------|----------------|-------------|---------|
| Intercept                     | 50.2        | 5.1            | 9.84        | 0.000   |
| IT Investment (₦M)            | 0.25        | 0.08           | 3.12        | 0.014   |
| Automation Adoption (Percent) | 0.48        | 0.12           | 4.00        | 0.005   |
| Digital Training (₦M)         | 0.12        | 0.05           | 2.40        | 0.042   |

Source: Author's Computation, 2026

##### 4.2. Hypothesis Two

H02: Digital change strategies have no significant effect on market growth. R-squared = 0.72, F-statistic is significant,  $p < 0.05$ , digital marketing spend ( $p=0.003$ ) is significant. H02 is rejected.

**Table 3. Regression results for market growth**

| Predictor Variable                        | Coefficient | Standard Error | t-Statistic | P-Value |
|-------------------------------------------|-------------|----------------|-------------|---------|
| Intercept                                 | 2.1         | 1.2            | 1.75        | 0.095   |
| Digital Marketing Spend (₦M)              | 0.40        | 0.10           | 4.00        | 0.003   |
| Customer Support Digitalization (Percent) | 0.35        | 0.11           | 3.18        | 0.012   |

Source: Author's Computation, 2026.

#### 4.3. Discussion of Findings

The analysis shows a clear link between digital change and the performance of food and consumer goods units in South-South Nigeria.

On operational efficiency, the regression result ( $R^2 = 0.79$ ) indicates that IT investment, automation adoption and digital training together explain most of the changes in output per employee. In our sample, units that committed more funds to IT infrastructure were able to process orders faster and reduce stock errors. Automation adoption at 60% mean level helped cut manual handling, especially at POS and inventory tracking. This supports our field observation that staff who received regular digital training made fewer entry errors and needed less supervision. Samson (2024) reported a similar pattern in manufacturing firms where technology use improved daily workflow. What is different in the South-South context is the heavy reliance on mobile-based tools like WhatsApp for order tracking, which was less emphasized in previous studies.

For market growth, the result ( $R^2 = 0.72$ ) shows that digital marketing spend and customer support digitalization drive sales volume growth. Spending on Facebook and WhatsApp adverts allowed units to reach customers outside their immediate location, a point also noted by Oladejo et al. (2024). However, customer support digitalization, while positive, was not as strong as marketing spend. During data collation, we noted that many units have WhatsApp business accounts but respond late, which limits conversion. This

suggests that having the tool is not enough; promptness in response matters.

Overall, the findings confirm that digital change has a significant effect on both efficiency and growth, but the effect is stronger when tools are combined with staff capability.

#### 5. Conclusion

This study examined the effect of digital change on operational efficiency and market growth among food and consumer goods units in South-South Nigeria using ten years of secondary data.

First, the study found that digital change significantly influences operational efficiency. Second, strategies related to digital change have a considerable effect on market growth.

In conclusion, digital change is a crucial factor affecting both operational efficiency and market growth for Food and Consumer Goods Units in South-South Nigeria. Investments in IT infrastructure, automation, digital training, as well as digital marketing and customer support digitization contribute to enhanced performance. Units that embrace digital tools are better equipped to reduce costs, serve customers more swiftly, and expand their market share.

Based on the findings, the following recommendations are made, which align with the summary in the abstract:

1. Increase Investment in IT and Automation: Food and Consumer Goods Units in South-South Nigeria should

boost their investment in IT infrastructure and automation tools like POS systems and inventory software to minimize manual tasks and enhance operational efficiency.

2. Train Staff on Digital Tools: Management should offer regular training for staff on utilizing digital tools to improve competency and ensure effective technology usage.
3. Enhance Digital Marketing and Customer Support Digitization: Units should allocate more resources to

digital marketing and customer support via platforms like WhatsApp, Facebook, and online sales channels to reach a wider audience and increase market share.

4. Develop Digital Adoption Plans: Units ought to formulate a clear strategy for adopting digital initiatives while considering costs, staff readiness, and business objectives to ensure that their digital investments lead to improved performance.

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