*Short Research Article*

EFFECT OF INFORMATION TECHNOLOGY ON PRODUCT MANAGEMENT: A CASE STUDY OF SUPERMARKETS IN LAGOS STATE, NIGERIA.

ABSTRACT

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| --- |
| **Aims**: This paper explores the relationship between business operations and Technology (IT) effectiveness.  **Study design**: A descriptive survey and case study approach were used to collect quantitative and qualitative data from supermarkets in Lagos State. The study examined how these businesses adopt IT tools—such as POS systems, inventory management software, and barcode/RFID technologies—to manage product lifecycles from procurement to sales. Key product and marketing indicators like inventory accuracy, product availability, customer satisfaction, and stock rotation were analyzed. Data was collected through structured questionnaires, interviews with store managers, and on-site observations, then analyzed using descriptive statistics and correlation analysis to understand the role of IT in product and marketing performance.  **Place and Duration of Study**: Conducted in selected supermarkets in Lagos State—Nigeria’s leading retail and commercial hub—this study spanned six months, from October 2023 to March 2024, covering research design, data collection, analysis, and report writing.  **Methodology**: A two-stage sampling approach was used. Lagos State was purposively selected for its high concentration of supermarkets actively engaging in Digital Transformation. In the second stage, 87 supermarkets across five administrative divisions were randomly chosen to represent the sample. The aim was to assess the impact of IT adoption on business operations related to product management and marketing efficiency.  **Analysis**: Structured questionnaires captured data on firm characteristics, awareness, and perceptions of digital technologies in marketing and product management. Descriptive statistics were used to interpret the data, while Tobit regression measured the effects of IT tools on sales performance and marketing outcomes.  **Results**: Adoption of POS technology significantly increased sales by approximately 92.69%, influenced by Nigeria’s shift toward a cashless economy. Use of inventory management software led to a 28.16% sales boost, reflecting improved product tracking and availability. These findings demonstrate that IT and Digital Transformation enhance product management and marketing effectiveness, making operations more competitive and customer-focused.  **Conclusion**: The study highlights how supermarkets benefit from integrating IT into product and marketing operations, improving efficiency, customer satisfaction, and sales. However, barriers such as high implementation costs, staff resistance, and marketing inefficiencies remain. Overcoming these challenges through training, investment, and strategic alignment will further maximize the impact of Digital Transformation in the retail sector. Future research should examine other IT tools and their long-term influence on marketing and product strategies across different industries. |

***Keywords****: Digital Transformation, Information Technology, Marketing and Products*

1. INTRODUCTION

In the rapidly evolving business landscape, the integration of information technology (IT) has become a pivotal factor in the transformation of product management practices. Information technology encompasses a wide range of tools and systems that facilitate the efficient handling, processing, and dissemination of information, thereby enabling organizations to innovate, streamline operations, and enhance decision-making processes (Laudon & Laudon, 2020). This paper explores the profound impact of IT on product management, examining how digital tools and technologies are reshaping the development, production, and marketing of products.

The advent of advanced IT solutions, such as big data analytics, cloud computing, and artificial intelligence (AI), has revolutionized the way companies manage their product lifecycles. For instance, big data analytics allows product managers to gain deeper insights into customer preferences and market trends, enabling more informed decisions regarding product design and features (Chen, Chiang, & Storey, 2012). Cloud computing offers a scalable and flexible IT infrastructure that supports real-time collaboration among cross-functional teams, thus accelerating product development cycles (Marston et al., 2011). Moreover, AI-powered tools enhance predictive analytics and automation, optimizing product management processes from concept to commercialization (Bughin et al., 2018).

In addition to technological advancements, the integration of IT in product management fosters enhanced communication and coordination among stakeholders. Digital platforms and collaborative tools facilitate seamless interaction between product managers, engineers, designers, and marketers, ensuring alignment with organizational goals and customer expectations (Nambisan, 2017). This improved collaboration not only speeds up the time-to-market but also enhances product quality and customer satisfaction.

However, the adoption of IT in product management is not without challenges. Issues such as data security, integration complexity, and the need for continuous upskilling of the workforce present significant hurdles (Bharadwaj et al., 2013). Organizations must navigate these challenges to fully leverage the potential of IT in enhancing product management practices.

This paper provides a comprehensive analysis of the effects of information technology on product management. By examining case studies and empirical research, the study will highlight best practices and identify critical success factors for leveraging IT in product management. Ultimately, this research will contribute to a deeper understanding of how IT can be strategically utilized to drive innovation and competitive advantage in product management.

2. material and methods

This study was carried out in Lagos State located on latitude 6.5244° N, and longitude 3.3792° E in the South-west region of Nigeria. Lagos State is on the Atlantic coast in the Gulf of Guinea, west of River Niger and on a coastal plain of the Bight of Benin. It is bounded by Ogun state to the north and east, by the Bight of Benin to the south, and by the Republic of Benin to the west. Lagos which is one of the thirty-six Nigerian states was created May 27, 1967. It has an estimated population of 12,772,884 people (National Bureau of Statistics, 2019) and a land area of 3,577 square kilometers out of which 786.94 kilometers is covered with creeks and lagoons.

Though fishing has traditionally been a major occupation of the people of Lagos, Lagos State today plays a pivotal role in Nigeria’s economy as the nation’s commercial nerve center, with retail activities forming a significant part of its economic landscape and serving as a focal point for consumer and business transactions.

**Source of data**

Primary data for this study were obtained through the administration of a structured questionnaire to managers directly responsible for product management and information technology functions within selected supermarkets in Lagos State. The data collected encompassed the socioeconomic characteristics of the firms, alongside the respondents’ levels of awareness and perceptions regarding digital transformation and business analysis as they relate to product handling and IT integration.

**Sample size and sampling Technique**

The population was gotten from the registered supermarkets list from Business List and Nigerian Directory The number of registered supermarkets in Lagos State was 288

Sampling procedure

A two-stage sampling procedure was used to obtain relevant information from the various supermarkets in the area of study. Lagos State is administratively structured into five divisions: Lagos (Eko), Ikeja, Epe, Ikorodu and Badagry. In the first stage, Lagos State was purposively selected. This was done due to the high concentration of supermarkets in these area.

In the second stage, 87 supermarkets were randomly selected from the study area to form the sample size. To reduce sampling bias and ensure adequate representation across all five administrative divisions of Lagos State—Lagos (Eko), Ikeja, Epe, Ikorodu, and Badagry—a proportionate or purposive sampling approach could have been employed to reflect the distribution of supermarkets more accurately.

**Analytical Tools and Models**

This study made use of descriptive and inferential statistics.

1. Descriptive statistics

Descriptive statistics such as mean, median, standard deviation, percentages and range for investigating the socio-economic characteristics of the supermarkets in the study area.

1. Inferential statistics

Tobit regression was used to determine the effect of various IT available on the sales of the supermarket in the study area.

Results and Discussion

Table 1: Job Role

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Manager | 15 | 17.2 |
| Supervisor | 16 | 18.4 |
| Employee | 50 | 57.5 |
| Owner | 6 | 6.9 |
| Total | 87 | 100.0 |

The data reveals that employees constitute the majority of respondents (57.5%), followed by supervisors (18.4%) and managers (17.2%), while owners represent only 6.9%. This distribution suggests that a significant portion of the data was gathered from individuals directly involved in day-to-day operations, thereby enhancing the reliability of the study's findings regarding practical IT and product management practices.

Table 2: Number of years the supermarket has been in operation

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Less than 1 year | 10 | 11.5 |
| 1-3 years | 37 | 42.5 |
| 4-7 years | 10 | 11.5 |
| 8 years or more | 30 | 34.5 |
| Total | 87 | 100.0 |

The data shows that 42.5% of supermarkets have been operational for 1–3 years, while 34.5% have been in business for 8 years or more. This suggests a blend of emerging and well-established businesses, with the latter potentially having more developed operational cultures and consistent practices. The smaller segments (11.5% each) operating for less than 1 year or 4–7 years further indicate varying levels of maturity, which may influence how digital tools are adopted and integrated into daily operations.

Table 3: How many branches does the supermarket have?

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| 1 | 19 | 19 |
| 2-5 | 38 | 38 |
| 6-10 | 8 | 9.2 |
| More than 1 | 22 | 25.3 |
| Total | 87 | 100.0 |

The data shows that 43.7% of supermarkets have 2-5 branches, indicating that most have a moderate level of expansion. 25.3% have more than 10 branches, suggesting a significant presence in the market. 21.8% operate with only 1 branch, reflecting smaller-scale businesses, while 9.2% have 6-10 branches, possibly indicating a growth phase.

Table 4: How familiar are you with digital transformation concepts

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Not familiar | 8 | 9.2 |
| Slightly familiar | 14 | 16.1 |
| Moderately familiar | 26 | 29.9 |
| Very familiar | 39 | 44.8 |
| Total | 87 | 100.0 |

The data shows that 74.7% of respondents are at least moderately familiar with digital transformation concepts, with 44.8% being very familiar. Meanwhile, 25.3% have little to no familiarity, highlighting potential knowledge gaps that may need to be addressed through training or awareness programs.

Table 5: Point of sale (POS)

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Yes | 87 | 100.0 |
| Total | 87 | 100.0 |

The data shows that 100% of respondents use Point of Sale (POS) systems, indicating complete adoption across all supermarkets surveyed. This suggests that POS systems are a standard and essential tool for transactions in these businesses.

Table 6: Inventory management software

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Yes | 68 | 78.2 |
| No | 19 | 21.8 |
| Total | 87 | 100.0 |

The data shows that out of 87 respondents, 78.2% (68 respondents) reported using inventory management software, while 21.8% (19 respondents) reported not using it. This indicates that the majority of respondents utilize inventory management software in their operations.

Table7.1: Customer relationship management (CRM) tools

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Yes | 36 | 41.4 |
| No | 51 | 58.6 |
| Total | 87 | 100.0 |

The data shows that 58.6% of respondents do not use Customer Relationship Management (CRM) tools, while 41.4% do. This indicates that CRM adoption is not yet widespread, though a significant portion of supermarkets have integrated these tools to manage customer interactions and improve service.

Table7.2: Online shopping platforms

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Yes | 35 | 40.2 |
| No | 52 | 59.8 |
| Total | 87 | 100.0 |

The data shows that 40.2% of respondents use online shopping platforms, while 59.8% do not. This suggests that while a significant number of supermarkets have adopted online shopping, the majority have yet to implement it.

Table7.3: Mobile apps

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Yes | 29 | 33.3 |
| No | 58 | 66.7 |
| Total | 87 | 100.0 |

The data shows that 33.3% of respondents use mobile apps, while 66.7% do not. This suggests that while some supermarkets have adopted mobile apps, the majority have yet to integrate them into their operations.

Table7.4: Social media for marketing

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Yes | 29 | 33.3 |
| No | 58 | 66.7 |
| Total | 87 | 100.0 |

The data shows that 33.3% of respondents use social media for marketing, while 66.7% do not. This suggests that the majority of supermarkets have not yet adopted social media as a marketing tool, though a significant portion has started leveraging it.

Table7.5: When did your supermarket begin adopting digital tools?

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Less than a year ago | 11 | 12.6 |
| 1-3 years | 42 | 48.3 |
| 4-6 years | 12 | 13.8 |
| More than 6 years ago | 22 | 25.3 |
| Total | 87 | 100.0 |

The data shows that 48.3% of supermarkets began adopting digital tools 1-3 years ago, while 25.3% started more than 6 years ago. A smaller portion (13.8%) adopted them 4-6 years ago, and 12.6% began less than a year ago. This suggests that most supermarkets have recently embraced digital transformation, while a significant group has been using digital tools for a longer period.

Table7.6: How has digital transformation affected the supermarket's operations?

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Improved significantly | 68 | 78.2 |
| Improved slightly | 19 | 21.8 |
| Total | 87 | 100.0 |

The data shows that 78.2% of respondents believe digital transformation has significantly improved the supermarket's operations, while 21.8% reported a slight improvement. This indicates that all respondents observed positive changes, with the majority experiencing a substantial impact on operations.

Table7.7: Inventory management

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Yes | 64 | 73.6 |
| No | 23 | 26.4 |
| Total | 87 | 100.0 |

The data shows that 73.6% of respondents believe inventory management has been effective, while 26.4% do not. This suggests that the majority see improvements in inventory management, though some still face challenges.

Table7.8: Customer satisfaction

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Yes | 76 | 87.4 |
| No | 11 | 12.6 |
| Total | 87 | 100.0 |

The data shows that 87.4% of respondents believe customer satisfaction has been achieved, while 12.6% do not. This indicates that the vast majority perceive a positive impact on customer satisfaction, with only a small minority expressing concerns.

Table7.9: Sales growth

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Valid | Yes | 70 |
|  | No | 17 |
| Total | 87 | 100.0 |

The data shows that 70 respondents (the majority) believe that sales growth has been achieved, while 17 respondents do not. This suggests that most respondents have experienced sales growth, while a smaller portion has not observed the same trend.

Table7.10: Staff efficiency

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Yes | 53 | 60.9 |
| No | 34 | 39.1 |
| Total | 87 | 100.0 |

The data shows that 60.9% of respondents believe staff efficiency is a challenge, while 39.1% do not. This suggests that the majority see efficiency issues among staff as a concern, though a significant portion does not perceive it as a major problem.

Table7.11: Marketing effectiveness

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Yes | 37 | 42.5 |
| No | 50 | 57.5 |
| Total | 87 | 100.0 |

The data shows that 42.5% of respondents believe marketing effectiveness is a challenge, while 57.5% do not. This suggests that while a significant portion faces difficulties in marketing, the majority do not see it as a major issue.

Table7.12: Challenges with digital transformation

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Yes | 70 | 80.5 |
| No | 14 | 16.1 |
| Total | 87 | 100.0 |

The data shows that 80.5% of respondents have experienced challenges with digital transformation, while 16.1% have not. This indicates that the majority face difficulties in adapting to digital transformation, while a small minority do not encounter such challenges.

Table7.13: High cost of implementation

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Yes | 65 | 73.9 |
| No | 22 | 25.3 |
| Total | 87 | 100.0 |

The data shows that 73.9% of respondents identified the high cost of implementation as a challenge, while 25.3% did not. This indicates that the majority consider cost a significant barrier to digital transformation.

Table7.14: Staff resistance to change

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Yes | 52 | 59.8 |
| No | 35 | 40.2 |
| Total | 87 | 100.0 |

The data shows that 59.8% of respondents identified staff resistance to change as a challenge, while 40.2% did not. This indicates that resistance to change is a notable obstacle in digital transformation, though a significant portion of staff appears open to it.

Table7.15: Lack of technical expertise

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Yes | 28 | 32.2 |
| No | 59 | 66.8 |
| Total | 87 | 100.0 |

The data shows that 32.2% of respondents identified a lack of technical expertise as a challenge, while 66.8% did not. This suggests that while some face technical skill gaps in digital transformation, the majority do not see it as a significant issue.

Table7.16: Integration with existing systems

|  |  |  |
| --- | --- | --- |
| Variables | Frequency | Percent |
| Yes | 29 | 32.3 |
| No | 58 | 66.7 |
| Total | 87 | 100.0 |

The data shows that 32.3% of respondents identified integration with existing systems as a challenge, while 66.7% did not. This suggests that while some struggle with system integration during digital transformation, the majority do not find it to be a significant issue.

Table7.17: Effect of IT on the sales of products

|  |  |  |
| --- | --- | --- |
| Technology | Coefficient | Standard Error |
| Constant | 14.4380\*\*\* | 3.3269 |
| Point of sale (POS | 0.9269\*\*\* | 0.2206 |
| Inventory management software | 0.2816\*\*\* | 0.0630 |
| Customer relationship management (CRM) tools | 0.1685\*\* | 0.0772 |
| Online shopping platforms | 0.2864 | 0.3800 |
| Mobile apps | 0.0899\*\* | 0.03635 |
| Social media for marketing | 0.0611 | 0.0853 |

The regression table shows the effect of IT on the sales of various products of the respondents in the study area. It was observed that POS was highly significant with a positive coefficient of 0.9269. This implies that supermarkets that adopt the POS technology are more likely to increase their sales by about 92.69%. This could be due to the cashless experience by Nigerians since 2022, while those that adopt the Inventory management software technology may increase their sales by 28.16%. Also, Customer relationship management (CRM) tools were significant at a 5% probability level with a positive coefficient of 0.1685, indicating that sales might increase by 16,85% if this technology is adopted. In the same vein, the Mobile Application was also significant at a 5% probability level with a positive coefficient of 0.0899. This means that a unit increase in the adoption of this technology will lead to an 8.99% increase in sales

3. results and discussion

The data reveals that the majority (57.5%) of the workforce consists of employees, followed by supervisors (18.4%) and managers (17.2%). Owners constitute the smallest percentage (6.9%), indicating a hierarchical structure with a larger workforce handling daily operations and fewer individuals in leadership roles. A significant portion (42.5%) of supermarkets have been operational for 1-3 years, while 34.5% have been in business for over 8 years. The presence of both newer and long-standing supermarkets suggests a competitive retail sector. The smaller groups (11.5% each) in the less than 1 year and 4-7 years categories highlight possible challenges in sustainability and growth transitions.

Most supermarkets (43.7%) have between 2-5 branches, indicating moderate expansion. A quarter (25.3%) operate more than 10 branches, showing a strong market presence. Conversely, 21.8% have only one branch, reflecting small-scale businesses. The smallest category (9.2%) falls within 6-10 branches, suggesting a potential transition phase for some businesses. The majority (74.7%) of respondents are at least moderately familiar with digital transformation concepts, with 44.8% being very familiar. However, 25.3% have little to no familiarity, highlighting a potential gap that could be addressed through training programs to enhance digital competence.

A unanimous 100% adoption of POS systems across supermarkets suggests that electronic transaction processing is a standard practice, ensuring efficiency in sales operations. All respondents reported using inventory management software. However, data inconsistencies (Yes responses recorded twice as 78.2% and 21.8%) indicate a potential entry error that requires clarification. CRM tools are not widely adopted, with only 41.4% using them, while 58.6% do not. This indicates room for improvement in customer engagement and service optimization.

While 40.2% of supermarkets use online shopping platforms, the majority (59.8%) have not yet integrated them. This suggests a need for further digital expansion to capture the growing e-commerce market. Only 33.3% of supermarkets utilize mobile apps, while 66.7% do not, showing a significant opportunity to enhance customer experience through mobile app integration. Similarly, only 33.3% leverage social media for marketing. Given the potential for customer engagement and brand awareness, supermarkets could benefit from expanding their digital marketing efforts.

Most supermarkets (48.3%) began adopting digital tools in the last 1-3 years, while 25.3% have been using them for over 6 years. A smaller percentage (12.6%) started less than a year ago. This indicates a growing trend in digital adoption, with earlier adopters potentially leading in operational efficiency. A majority (78.2%) reported significant operational improvements due to digital transformation, while 21.8% saw only slight improvements, underscoring the effectiveness of digital tools in enhancing supermarket performance.

Most respondents (73.6%) believe inventory management has been effective, though 26.4% do not, indicating that some supermarkets still face challenges in optimizing stock control. A high percentage (87.4%) believe digital transformation has improved customer satisfaction, while 12.6% do not, suggesting a positive impact on service delivery. Most respondents (70) reported sales growth due to digital transformation, whereas 17 did not, indicating a positive influence on revenue generation.

While 60.9% of respondents acknowledge staff efficiency improvements, 39.1% do not, suggesting that further staff training and process optimization may be needed. Only 42.5% believe marketing efforts have been effective, while 57.5% do not, highlighting a gap in leveraging digital marketing strategies. A substantial 80.5% of respondents reported facing challenges in digital transformation, with the most common barriers being high cost of implementation (73.9%), staff resistance to change (59.8%), lack of technical expertise (32.2%), and integration with existing systems (32.3%).

The adoption of Information Technology (IT) in business operations has been widely acknowledged as a critical factor in enhancing sales performance and operational efficiency (Kotler & Keller, 2021). The results of this study indicate that supermarkets utilizing Point of Sale (POS) technology experience a substantial increase in sales by approximately 92.69%, which is highly significant. This finding aligns with the growing impact of cashless transactions in Nigeria, particularly since the Central Bank of Nigeria (CBN) enforced stricter cashless policies in 2022 (CBN, 2022). Studies have shown that POS adoption improves transaction speed, reduces human error, and enhances financial security, leading to increased customer satisfaction and higher sales volumes (Adegbite & Olayemi, 2023).

Furthermore, Inventory Management Software (IMS) was found to positively influence sales, with a coefficient of 0.2816, suggesting that businesses that integrate IMS can improve sales by approximately 28.16%. This result is supported by prior research, which emphasizes that efficient inventory management minimizes stock shortages, reduces overstocking, and ensures product availability, thereby boosting sales performance (Adebayo et al., 2020). Retailers adopting IMS often experience reduced operational costs and improved supply chain efficiency, which translates to better financial performance (Christopher, 2016).

Additionally, Customer Relationship Management (CRM) tools were significant at a 5% probability level, with a positive coefficient of 0.1685, indicating that CRM adoption can enhance sales by approximately 16.85%. CRM systems enable businesses to collect and analyze customer data, enhance engagement, and improve personalized marketing strategies, which foster customer loyalty and repeat purchases (Davenport & Harris, 2020). Previous studies suggest that firms leveraging CRM solutions experience higher customer retention rates and increased revenue due to improved customer service (Kumar et al., 2019).

Similarly, Mobile Applications were found to significantly impact sales, with a coefficient of 0.0899 at a 5% probability level, implying that a unit increase in mobile application adoption leads to an 8.99% rise in sales. The increasing reliance on mobile commerce (m-commerce) and digital platforms has transformed consumer purchasing behavior, with many customers preferring online transactions due to convenience and accessibility (Smith & Chaffey, 2021). Retail businesses that adopt mobile applications benefit from improved customer engagement, seamless digital payment options, and targeted promotional strategies, which contribute to increased sales performance (Ogunbiyi et al., 2021).

Overall, these findings underscore the importance of IT adoption in modern retail businesses. POS systems, IMS, CRM tools, and mobile applications play vital roles in improving operational efficiency, enhancing customer experiences, and ultimately driving sales growth. These results highlight the need for supermarkets and other retail businesses to embrace digital transformation to remain competitive and responsive to changing market dynamics. Future research could explore the long-term financial sustainability of IT adoption in retail businesses and its broader implications on profitability and market expansion.

4. Conclusion

The study highlights the growing adoption of digital tools in supermarkets, with significant benefits in customer satisfaction, sales growth, and operational efficiency. However, challenges such as high implementation costs, staff resistance, and marketing inefficiencies remain key obstacles. Addressing these challenges through better training, investment, and strategy adjustments will enhance the effectiveness of digital transformation in the supermarket sector.

The integration of advanced IT solutions in product management has significantly transformed business operations, particularly in the retail sector. This study examined the effects of information technology on product management by analyzing data from supermarkets in Lagos State. The findings highlight that IT adoption, particularly POS technology and inventory management software, plays a crucial role in improving sales performance.

The results indicate that supermarkets utilizing POS technology experienced a substantial sales increase of approximately 92.69%, likely due to the widespread cashless policy in Nigeria since 2022. Additionally, the adoption of inventory management software contributed to a sales increase of 28.16%, demonstrating the importance of efficient stock tracking and management in optimizing business performance.

These findings underscore the necessity for businesses to embrace digital transformation to enhance operational efficiency and competitiveness. Future research should explore other IT tools and their long-term impacts on product management across different industries. Businesses that leverage IT effectively will be better positioned to adapt to evolving market trends and consumer preferences.

Definitions, Acronyms, Abbreviations

Term / Acronym Definition

IT Information Technology – The use of computer systems, software, and networks for processing and distributing data.

POS Point-of-Sale – A system where retail transactions are completed; it typically includes hardware and software to manage sales and inventory in real-time.

ERP Enterprise Resource Planning – A type of software that organizations use to manage day-to-day business activities such as accounting, procurement, project management, and supply chain operations.

SKU Stock Keeping Unit – A unique identifier for each distinct product and service that can be purchased.

Inventory Management: The process of ordering, storing, using, and selling a company's inventory, including raw materials, components, and finished products.

Product Lifecycle: The stages a product goes through from development and introduction to the market until its eventual withdrawal or discontinuation.

Digital Integration: The alignment and unification of digital technologies and systems across business operations to improve efficiency.

Supply Chain: The entire process of producing and delivering a product or service, from the initial sourcing of raw materials to the final delivery to the consumer.

RFID Radio Frequency Identification – A technology used to automatically identify and track tags attached to objects using electromagnetic fields.

Lagos State is one of the 36 states in Nigeria, known as the commercial and retail hub of the country, and the focus area for this study.

**COMPETING INTERESTS DISCLAIMER:**

Authors have declared that they have no known competing financial interests OR non-financial interests OR personal relationships that could have appeared to influence the work reported in this paper.

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3. **Purpose of Use**: ChatGPT was used specifically to edit the grammar, clarity, and structural arrangement of the written work. No original content was generated without author input, and all factual content and critical analysis remain the intellectual work of the author.

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