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Financial implication of Inventory Wastage on the performance of Fast-Moving Consumer Goods (FMCG) Industry in Nigeria

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Abstract
This study explores the financial impact of inventory waste on the operational performance of Fast-Moving Consumer Goods (FMCG) companies in Nigeria, focusing on three firms: Dangote Sugar Plc, Guinness Nigeria Plc, and Dansa Foods. A correlational descriptive survey method was employed, targeting 276 experienced, full-time employees involved in inventory-related functions across procurement, sales, production, and quality control departments. Data were gathered through an online questionnaire and analyzed using descriptive statistics, including frequencies, percentages, and pie charts. The findings reveal that inventory waste significantly influences all examined performance indicators, with over 50% of respondents acknowledging its effect across variables. Correlation analysis indicated a moderate negative relationship between inventory waste and company performance ($r = 0.613$, $p = 0.015$). The study concludes that inventory waste poses a considerable threat to the sustainability of FMCG businesses and recommends that firms implement effective strategies to minimize waste and safeguard long-term performance.

Keywords: Financial implication, Inventory, Wastage, FMCG, Performance, Operation

1. Introduction

Inventory plays a crucial role in the functioning of both profit-oriented and non-profit organizations, as it often accounts for a significant share of a company's financial resources (Adebola, 2019). Effective inventory investment and control are essential for maintaining profitability, as mismanagement can lead to substantial losses. To improve performance and reduce waste, many organizations have adopted strategic inventory management practices that optimize the use of available resources while ensuring product quality (Nsikan et. al, 2015).

In Nigeria, several industries particularly in manufacturing and construction have experienced persistent challenges in inventory control, impacting their overall operational efficiency (Binuyo et. al, 2019). One such sector is the Fast-Moving Consumer Goods (FMCG) industry, which serves as the focus of this study. The FMCG sector is vital to Nigeria's economic landscape, contributing significantly to job creation, revenue generation, and national GDP. With an estimated market value of approximately $20 billion, the FMCG sector ranks among the largest in Africa and accounts for over 38% of Nigeria's retail transactions. Its projected Compound Annual Growth Rate (CAGR) of 10.9% by 2024 is fueled by the country's large population and expanding middle-income class (Emeri, 2020).

The FMCG industry comprises a broad spectrum of goods such as food, beverages, personal care items, and household essentials products typically consumed on a frequent basis and sold at relatively low prices. Due to the high volume and frequency of turnover in this sector, managing inventory efficiently is both a strategic and operational necessity. Inventory management directly affects key performance areas including cost control, service delivery, and long-term viability (Onikoyi et. al, 2017).

Despite its importance, inventory wastage remains a major challenge in FMCG operations. This form of loss which may result from spoilage, expiry, damage, theft, or inadequate stock handling has significant financial implications. It not only reduces profitability by increasing write-offs but also disrupts supply chains and diminishes customer satisfaction due to stockouts or delivery delays. Furthermore, because inventory waste results in the loss of energy, raw materials, and logistics inputs, it leads to resource and environmental inefficiencies (Gokhale et al., 2018).

In the Nigerian context, inventory wastage has hindered the development of numerous firms, especially in the FMCG sector. Previous reports have highlighted alarming trends. For instance, in 2013, a

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national newspaper reported that many FMCG firms faced serious financial strain due to inventory write-offs caused by unsold, expired products. Data from the Lagos State Waste Management Board showed a steady increase in inventory-related waste among four leading FMCG firms from 0.6% in 2014 to 2.5% in 2016, and rising to 3.6% in 2019.

These observations raise critical questions: What underlying factors are driving inventory waste in Nigeria's FMCG sector? And to what extent does this waste affect the financial performance of these firms? This study seeks to address these questions by examining the relationship between inventory waste and the operational outcomes of selected FMCG companies in Nigeria.

2. Literature Review

Inventory wastage and its impact on organizational performance have long been topics of scholarly debate, with divergent views regarding its influence on various business outcomes. While inventory is recognized as a major component of working capital particularly in the Fast-Moving Consumer Goods (FMCG) sector there remains limited empirical research specifically focused on the financial implications of inventory waste within the Nigerian context.

Several studies have emphasized the strategic role of inventory management in organizational success. For example, Irene & Deusdedita (2022) posited that the overall performance of an enterprise is largely dependent on the inventory management approaches it adopts. Supporting this claim, Kamau & Kagiri (2015) found a strong correlation between inventory control practices and organizational efficiency. In contrast, Mogere et. al, (2013) argued that the relationship between inventory control and business performance may not be directly significant, suggesting the influence of other mediating variables.

In East Africa, Mukopi & Iravo (2017) investigated inventory control systems in a food and beverage manufacturing firm in Mwanza, Tanzania. The study highlighted the relevance of different inventory types namely raw materials, work-in-progress, and finished goods and identified the use of First-In-First-Out (FIFO) and perpetual inventory systems as critical to improving cost efficiency, production flexibility, and profitability. Similarly, Nemtajela & Mbohwa (2017) examined inventory wastage in Kenya's sugar industry, identifying material losses at multiple points in the supply chain. These inefficiencies were found to have negative implications for operational effectiveness.

Further evidence from Kenya was provided by Onchoke et. al, (2016), who explored inventory control among agrichemical distributors in Nakuru Central Sub-County. The study concluded that systematic inventory inspection and safety measures during transportation contributed positively to organizational performance. In Ethiopia, Atnafu & Balda (2018) analyzed micro and small enterprises, revealing that well-managed inventory systems significantly enhanced profitability and competitive advantage.

In Nigeria, Oluwabunmi et. al, (2020) conducted a study among food and beverage companies in Kwara State, establishing that inventory management practices such as stock rotation, real-time tracking, and inventory planning were positively correlated with improved operational outcomes. Likewise, Onchoke et. al, (2016), in a case study of Safaricom Kenya Limited, assessed the impact of inventory shrinkage, investment levels, and turnover on organizational competitiveness. The study demonstrated that effective inventory management led to enhanced customer satisfaction, profit margins, product quality, and overall return on investment.

Despite the growing body of literature from various African countries, a critical gap remains. There is a lack of focused studies that explore the financial consequences of inventory waste within Nigerian FMCG firms. Most existing research either generalizes inventory control without isolating wastage as a variable or concentrates on non-financial outcomes. This gap indicates the necessity for an in-depth investigation into how inventory wastage affects the financial health and sustainability of FMCG enterprises in Nigeria.

3. Methodology

This research employed a quantitative approach to assess how inventory waste impacts the financial performance of firms within the Fast-Moving Consumer Goods (FMCG) sector. A correlational descriptive cross-sectional survey design was utilized to gather data from a specific group within the target population, aiming to explore the relationship between inventory waste and financial outcomes. Data collection relied primarily on a structured questionnaire.

The study population consisted of management personnel and employees from selected FMCG companies in Nigeria, specifically Dangote Sugar Plc, Guinness Nigeria Plc, and Dansa Foods. The research focused on departments directly involved in inventory activities, including procurement and supply, sales, production, storage, and quality control.

A reconnaissance survey was conducted to identify eligible participants, as comprehensive staff records were not publicly available. This preliminary survey revealed 276 permanent skilled employees directly involved in inventory-related tasks across the chosen firms. The reconnaissance method was adopted in line with recommendations by Onikoyi et. al (2017).

To determine the sample size, 50% of the identified population was selected, following the percentage method, which was supported by recent findings from Otuya & Eginiwin (2017). The distribution of

Table 1: Population and sample size of the study (Source: Author compilation (2025))

FMCG	Departments								Total	
	Procurement		Sale		Production		S&QC			
	P	SS	P	SS	P	SS	P	SS		
Dangote Sugar plc.	22	11	30	15	44	22	16	8	112	56
Guinness Nigeria Plc.	18	9	24	12	26	13	14	7	82	41
Dansa Foods	16	8	20	10	34	17	12	6	82	41
Total	56	28	74	37	104	52	42	21	276	138

Note; P means population, and SS means sample size

Table 2: importance of inventory management on FMCG (Source: Author's finding (2025))

Questions	Mean	Standard deviation
Is inventory management help FMCG to have the right amount of stock on hand?	3.89	0.17
Is inventory management help FMCG to maintaining stock and keeping stock level?	3.99	0.16
Is inventory management help FMCG to improve the liquidity position of the firm?	3.70	0.15

Figure 1: Inventory wastage (Source: Author's finding (2025))

questionnaires across departments and the derived sample size are detailed in Table 1.

4. Results and Discussion

4.1 Importance of inventory management in FMCG

The importance of inventory management in FMCG was examined in the study. Three questions were formulated to examine the importance of inventory management as presented in table 2. The result indicated that inventory management practices help FMCG to have the right amount of stock on hand with mean value of 3.89and standard deviation of 0.17. It was revealed that inventory management help FMCG to maintaining stock and keeping stock level with mean value of 3.99and standard deviation of 0.16. Finally, the result showed that inventory management help FMCG to improve the liquidity position of the firm with mean value of 3.70. This means that FMCGs see inventory management practice as the key to organizational growth by recognising the importance of inventory management stock, keeping stock level.

A query was posed to assess whether perceptions of inventory waste were influencing the financial records or operational performance of the fast-moving consumer goods (FMCG) sector. The findings presented in Figure 1 indicate that 98% of participants acknowledged that inventory waste has an impact on the financial documentation and overall performance of the industry. Inventory waste can pertain to surplus stock that remains unsold, which may arise from factors such as insufficient demand, damage, spoilage, expiration, theft, or loss.

According to 98% of the collected responses, the research further investigates the financial consequences by employing six specific variables: profit margin loss, material waste, liquidation, inadequate staff compensation, reduced productivity, and debtor-supplier relations. The finding illustrated in Figure 2

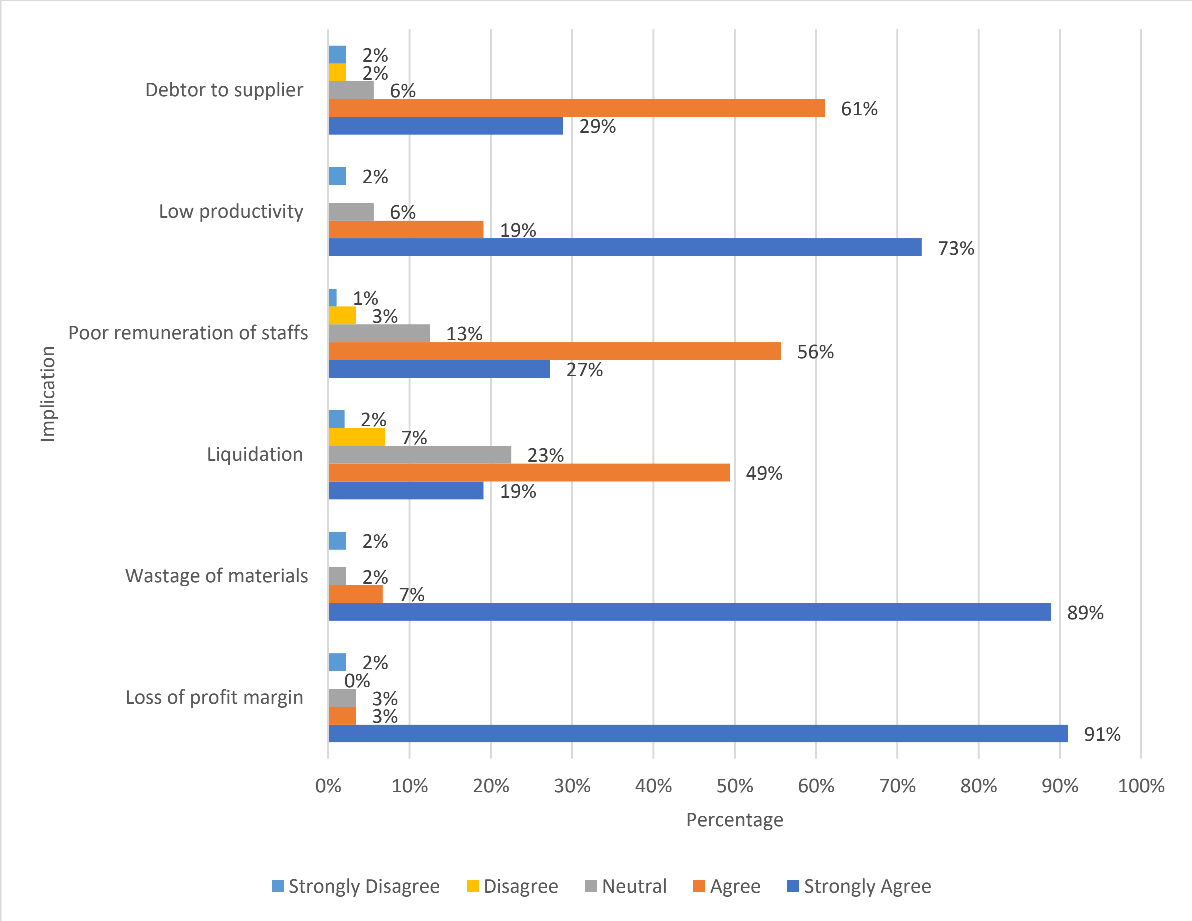

Figure 2: Financial implications of inventory waste in the FMCG industry (Source: Author's finding (2025)).

Table 3: Correlations between inventory waste and financial Performance of FMCG (Source: Author's finding (2024))

		Inventory	**Performance**
Inventory waste	Pearson correlation	1	.613**
	Sig. (2 tailed)		.015
	N	132	68
Performance of FMCG	Pearson correlation	.613**	1
	Sig. (2 tailed)	.015	1
	N	68	132

**. Correlation is significant at the 0.01 level (2-tailed).

indicate that inventory waste significantly impacts nearly all the tested variables, with over 50% of respondents in agreement across each criterion. Notably, it was found that inventory waste predominantly influences the company's profit margin, as 91% of participants strongly concurred that such waste can lead to diminished profit margins. This aligns with Eze et al. (2020), which highlighted a largely unmet demand for green building materials accompanied by subpar production rates, thereby adversely affecting the industry's overall profit margins. Furthermore, the study disclosed that 89% of respondents strongly agreed that inventory waste contributes to material waste. The materials in question can exist as either raw inputs or completed products. During an interview with the operations manager of Dangote Sugar Plc, it was highlighted that in 2016, the total loss of materials resulting from heavy rainfall during transportation and accidents attributed to poor road conditions reached approximately £1600. This loss significantly impacts the company's product output. Conversely, in a separate discussion with the Assistant Sales Manager of Dansa Food Plc, it was indicated that material waste is currently minimal due to the company's existing policies. Furthermore, a notable financial consequence of inventory waste identified within the FMCG sector is reduced productivity. Reduced productivity indicates that companies face challenges in maximizing output with their available resources. This observation aligns with the findings of Bocken et al. (2022) and Atnafu & Balda (2018), who confirmed that material loss in small and medium enterprises adversely influences firm productivity. This was also confirmed in an interview conducted with the operations manager of Dangote Sugar Plc, who indicated that product waste has a direct impact on the company’s productivity, particularly during the rainy season. The research further demonstrates that inventory waste can result in financial liquidation as well as adversely affect staff compensation, with respective percentages of 49% and 56% reported to some degree.

A composite score for the variable was created by adding the respondents' evaluations of the aforementioned statements, and this score was subsequently connected. Table 3 displays the findings of the Pearson product-moment correlation study between inventory waste and FMCG's financial performance. With r = 0.613 and a p value of 0.015, the correlation analysis's findings showed a negative association between FMCG performance and inventory waste. This suggests that inventory waste has an impact on FMCG's financial performance.

6. Conclusion and Future Scope

The study sought to investigate the financial implication of inventory waste on the financial performance of Fast-Moving Consumer Goods (FMCG) Industries in Nigeria using three FMCG industries. The result show that inventory management help FMCG to improves the liquidity position of the firm. It was also revealed that inventory waste can lead to liquidation, loss of profit margin, material waste, and low productivity. In addition to the result, effective inventory management activities can boost operational efficiency of FMCG by reflected in their productivity and profitability. Furthermore, effective inventory waste control could increase profitability measured by sales and liquidity measured by inventory turnover, thus improving the FMCG financial performance. This may signify those operations would be improved once organization efficiently manages and controls its inventory, and financial performance would result in a substantial increment.

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