

Inventory Management and Organisational Performance of Selected Manufacturing Firms in Southwest, Nigeria

AKANDE, Folashade Adebisi¹, Ibojo, B.O. (PhD)², Akinruwa, T.E. (PhD)³

^{1,3}Department of Business Administration Ajayi Crowther University, Oyo, Nigeria

²Professor of Marketing, Department of Business Administration Ajayi Crowther University, Oyo, Nigeria

DOI: <https://doi.org/10.47772/IJRISS.2026.100800214>

Received: 21 August 2026; Accepted: 24 August 2026; Published: 31 August 2026

ABSTRACT

This study examined the effect of inventory management on organisational performance of selected manufacturing firms in Southwest Nigeria. The study specifically investigated the effect of Economic Order Quantity (EOQ), and Order Interval (OI) on organisational performance. The increasing complexity of manufacturing operations, rising production costs, supply chain uncertainties, and the need for efficient resource utilisation have made effective inventory management a critical determinant of organisational competitiveness. The study adopted a descriptive survey research design. The population of the study comprised registered manufacturing firms operating in Lagos, Ogun, and Oyo States, Nigeria. According to the Manufacturers Association of Nigeria (MAN, 2024), the total population consisted of 1,078 registered manufacturing firms, comprising 566 firms in Lagos State, 305 firms in Ogun State, and 207 firms in Oyo State. Using the Taro Yamane sample size determination formula at a 5% level of precision, a sample size of 292 respondents was obtained. The study employed proportionate and simple random sampling techniques to ensure adequate representation of manufacturing firms across the selected states. Data were collected using a structured questionnaire titled Inventory Management and Organisational Performance Questionnaire (IMOPQ), which measured the study variables using a five-point Likert scale. The collected data were analysed using descriptive statistics and regression analysis, while diagnostic tests were conducted to establish the suitability of the data for inferential analysis. The findings revealed that Economic Order Quantity had a positive and statistically significant effect on organisational performance ($\beta = 0.152$, $p = 0.002 < 0.05$). Similarly, Order Interval was found to have a positive and significant effect on organisational performance ($\beta = 0.276$, $p = 0.000 < 0.05$). The study concluded that inventory management significantly influences organisational performance among selected manufacturing firms in Southwest Nigeria.

Keywords: Inventory Management, Economic Order Quantity, Order Interval, Organisational Performance

INTRODUCTION

In the manufacturing sector, organisational performance reflects the ability of firms to efficiently utilize resources, maintain production continuity, minimize operational costs, and maximize returns on investment. According to Ogunleye and Ibrahim (2024), organisational performance within the Nigerian manufacturing sector has experienced significant fluctuations due to unstable economic conditions, exchange rate volatility, inadequate infrastructure, rising inflation, and inefficient operational practices. Babatunde, Adetola, and Bello (2025) asserted that many manufacturing firms in Nigeria continue to struggle with declining profitability, low production efficiency, and increasing operational costs despite growing market opportunities.

Furthermore, Okonkwo and Ojo (2023) claimed that poor inventory practices, weak production planning, and ineffective supply chain coordination have contributed significantly to the unstable performance of manufacturing firms across Nigeria. The persistent challenges facing manufacturing firms have therefore increased the need for strategic management techniques capable of enhancing operational efficiency and

organisational sustainability. Consequently, inventory management has emerged as one of the most important managerial strategies for improving the performance and long-term survival of manufacturing organisations in both developed and developing economies. Inventory management refers to the systematic planning, coordination, monitoring, and regulation of inventory within an organisation in order to ensure the availability of the right quantity of materials, products, and supplies at the right time while minimizing inventory-related costs. It involves managing raw materials, work-in-progress items, finished goods, and other inventory resources to support smooth production and operational activities.

Babatunde, Bello, Ajayi, and Balogun (2025) observed that several listed manufacturing companies in Nigeria continue to struggle with low gross profit margins and unstable returns due to ineffective inventory management practices. The manufacturing sector in Southwest Nigeria has also been affected by inflationary pressures, unstable supply chains, high warehousing costs, fluctuating customer demand, and inadequate production planning, all of which have negatively influenced organisational performance. These problems have created difficulties for firms in meeting production targets, maintaining product availability, and sustaining customer loyalty in an increasingly competitive market environment. Furthermore, the inability of many manufacturing firms to achieve optimal organisational performance has contributed to increased business failures, reduced industrial productivity, and poor contribution of the manufacturing sector to national economic development. According to Oshioyenoya and Faruq (2025), poor inventory monitoring and stock level management significantly affect productivity, profitability, and customer satisfaction among manufacturing firms in Nigeria. Ilori and Majiyagbe (2024) asserted that ineffective inventory control practices expose manufacturing firms to excessive inventory holding costs, stock deterioration, and production interruptions that negatively affect operational performance.

In many manufacturing firms, excessive stock accumulation has resulted in tied-down capital, increased storage expenses, and wastage of raw materials due to obsolescence and expiration. On the other hand, inadequate inventory levels have frequently resulted in stock-outs, production stoppages, inability to satisfy customer demand, and loss of revenue opportunities. According to Ogah, Asiegbu, and Moradeyo (2022), poor management of raw material inventory significantly affects quality, flexibility, speed of operations, and cost efficiency within manufacturing organisations. These operational challenges have continued to reduce the capacity of manufacturing firms to maximize performance and compete effectively in both domestic and international markets. Despite the growing importance of inventory management in modern manufacturing operations, many organisations still encounter substantial difficulties in implementing effective inventory control techniques capable of enhancing organisational performance. According to Nwaiku and Ejechi (2022), many manufacturing firms in Nigeria still rely on inefficient inventory practices characterized by inaccurate inventory records, weak inventory coordination, and poor technology integration. Economic Order Quantity (EOQ), which is expected to assist firms in minimizing ordering and holding costs, is often poorly implemented due to inaccurate demand forecasting, unstable market conditions, and lack of technical expertise in inventory planning.

In addition, many manufacturing firms continue to experience serious challenges associated with the implementation of Order Interval (OI), Inventory Monitoring (IM), and Stock Taking (ST), thereby affecting the effectiveness of inventory management practices within organisations. The Order Interval technique is often associated with inaccurate demand forecasting, inappropriate review periods, delayed replenishment, and stock imbalances, which may result in stock-outs or excessive inventory. According to Ilori and Majiyagbe (2024), firms operating fixed order interval systems frequently encounter inventory shortages, overstocking, and inefficient inventory planning due to poor scheduling and fluctuating demand. The persistence of inventory management challenges, stock-related problems, and declining organisational outcomes among manufacturing firms suggests that effective inventory control remains a major concern within the Nigerian manufacturing sector. Many firms still struggle to maintain optimal inventory levels, ensure accurate inventory records, and implement efficient inventory review processes. According to Gara and Adamu (2026), inventory management inefficiencies continue to reduce profitability and operational effectiveness among industrial goods companies in Nigeria. This situation has raised serious concerns regarding the extent to which order interval, inventory monitoring, and stock taking influence the organisational performance of selected manufacturing firms in Southwest, Nigeria.

LITERATURE REVIEW

Inventory Management (IM)

Inventory management (IM) has emerged as a strategic operational practice in modern manufacturing organisations due to its role in coordinating material flow, reducing production disruptions, and enhancing efficiency. It refers to the systematic planning, ordering, storage, monitoring, and control of inventory resources to ensure smooth production processes and cost minimisation (Panigrahi et al., 2021). Scholars such as Shah and Thegar (2021) and Anantadjaya et al. (2021) further describe ICM as a coordination and optimisation process that ensures adequate stock levels, reduces waste, and improves organisational performance. Collectively, these definitions show that ICM involves planning, forecasting, monitoring, and optimisation of inventory to enhance operational efficiency and cost effectiveness in manufacturing firms.

Within manufacturing organisations, inventory management is critical due to dependence on raw materials, work-in-progress, and finished goods required for continuous production. Studies show that effective inventory systems reduce stock shortages, production delays, and excessive holding costs while improving productivity and profitability (Agu, Obi-Anike, & Eke, 2021). In Nigeria, where firms face inflation, exchange rate volatility, and supply chain disruptions, efficient inventory management becomes even more essential for operational stability and competitiveness.

Economic Order Quantity

Economic Order Quantity (EOQ) is a widely adopted inventory control technique in manufacturing organisations due to its ability to minimize total inventory costs and improve operational efficiency. It is defined as the optimal order quantity that balances ordering costs and holding costs in order to achieve cost efficiency in inventory management (Eze, Okafor, & Nwosu, 2022). Scholars such as Johnson and Carter (2025) and Mwangi and Kiptoo (2025) further describe EOQ as a scientific and optimisation-based model that ensures firms order the right quantity of stock at the right time while maintaining production continuity and reducing unnecessary inventory accumulation. The application of EOQ has become increasingly important in manufacturing due to rising production costs, fluctuating demand, and supply chain uncertainties. Studies show that firms operating with optimal inventory levels experience reduced storage costs, fewer stock-outs, and improved production efficiency (Afriha et al., 2021). EOQ helps organisations balance inventory levels by preventing both overstocking, which leads to high holding costs, and understocking, which disrupts production processes.

Order Interval

Order Interval (OI) is an inventory management technique in which inventory is reviewed and replenished at fixed, predetermined intervals rather than continuously. Under this system, organisations assess inventory levels at specific periods, such as weekly or monthly, and determine the quantity of inventory to be ordered based on the stock available and the expected demand before the next review period. According to Ibrahim and Adetola (2025), the order interval technique provides organisations with a structured and systematic approach to inventory replenishment, enabling managers to schedule procurement activities more effectively. Similarly, Adewale and Musa (2022) described the order interval system as a periodic inventory review approach that simplifies inventory management through regular stock assessments and planned replenishment schedules. Olatunji and Aremu (2023) further argued that the technique enables organisations to coordinate procurement activities efficiently while maintaining optimal inventory levels that support production continuity. The order interval system is founded on the principle of periodic inventory review, whereby inventory managers monitor stock levels only at predetermined intervals instead of continuously tracking every inventory movement.

Organisational Performance

Organisational performance is a key concept in management and organisational studies because it reflects how effectively an organisation achieves its operational, financial, and strategic objectives. In manufacturing settings, it is commonly assessed through indicators such as productivity, efficiency, profitability, and sustainability. Panigrahi et al. (2021) define organisational performance as the ability of firms to efficiently utilize resources to

achieve productivity growth and competitive advantage, emphasizing resource efficiency and operational effectiveness. Similarly, Shah and Thegar (2021) and Anantadjaya et al. (2021) describe it as the extent to which organisations attain their goals through coordinated managerial activities, highlighting both financial and non-financial outcomes such as profitability, efficiency, and customer satisfaction.

Furthermore, Afrifa et al. (2021) and Opoku et al. (2021) view organisational performance as the ability of firms to maintain operational stability, reduce costs, and sustain competitive advantage in dynamic environments. They argue that efficient operational systems, including effective inventory management, contribute significantly to improved production continuity, reduced costs, and enhanced customer satisfaction. Andersen and Larsen (2022) also emphasize that organisational performance reflects a firm's ability to achieve profitability, operational efficiency, and long-term sustainability through effective coordination and strategic management. Collectively, these perspectives show that organisational performance is a multidimensional construct encompassing productivity, profitability, efficiency, customer satisfaction, and sustainability.

THEORETICAL FRAMEWORK

The study is underpinned with the Theory of Constraints (TOC) developed by Eliyahu M. Goldratt (1984). The theory is considered the most appropriate because it provides a direct explanation of how effective inventory management influences organisational performance by identifying and eliminating operational bottlenecks that hinder productivity. The Theory of Constraints posits that every organisation is constrained by at least one limiting factor that prevents it from achieving its maximum performance. In manufacturing firms, inventory-related problems such as inappropriate order quantities, poorly planned order intervals, inadequate inventory monitoring, and ineffective stock-taking practices often constitute major operational constraints that result in production delays, stock shortages, excessive inventory holding, increased operating costs, and reduced profitability.

The theory advocates the continuous identification, management, and elimination of these constraints to improve operational efficiency, maximise throughput, and enhance organisational performance (Goldratt, 1984; Goldratt & Cox, 1984). The relevance of the Theory of Constraints to this study lies in its ability to explain the relationship between the inventory management dimensions examined, order quantity, order interval, inventory monitoring, and stock taking, and organisational performance. Effective determination of order quantity and order interval helps ensure timely inventory replenishment, while efficient inventory monitoring and regular stock taking improve inventory accuracy, strengthen inventory control, and support uninterrupted production processes.

Furthermore, accurate inventory monitoring and regular stock verification provide reliable information for managerial decision-making, improve inventory accountability, and reduce losses arising from inventory discrepancies, theft, spoilage, or obsolescence. As manufacturing firms continue to operate in a highly competitive and dynamic business environment, the ability to effectively manage inventory constraints becomes critical for achieving operational efficiency, sustaining profitability, and maintaining long-term organisational growth. Therefore, the Theory of Constraints provides a robust and appropriate theoretical foundation for this study because it clearly explains how effective inventory management practices, through the elimination of inventory-related constraints and operational bottlenecks, can enhance productivity, profitability, operational efficiency, and the overall organisational performance of selected manufacturing firms in Southwest, Nigeria.

Empirical Review

Opoku (2022) examined the effect of Economic Order Quantity (EOQ), on operational performance of food processing firms in Ghana. The study adopted a quantitative survey research design. The population consisted of food and beverage manufacturing firms operating within Accra, Tema, Kumasi, and Sekondi-Takoradi industrial zones, while procurement officers, inventory managers, and production managers formed the sample size of the study. Data were collected through structured questionnaires administered to operational personnel of the selected firms. The methods of data analysis included Structural Equation Modelling (SEM), descriptive statistics, and regression analysis. The findings showed that inventory management strategies significantly improve production efficiency, operational flexibility, and inventory optimization among manufacturing firms. Also, Eze, Okafor, and Nwosu (2022) examined the effect of Economic Order Quantity systems on inventory

cost management and organisational performance among manufacturing firms in Nigeria. The study adopted an explanatory research design. The population consisted of manufacturing firms listed on the Nigerian Exchange Group, while a sample size of 14 listed manufacturing companies was selected using purposive sampling techniques. Data were collected from annual financial reports and inventory management records covering a ten-year period. The methods of data analysis included panel regression analysis and descriptive statistical techniques. The findings revealed that Economic Order Quantity systems significantly reduce inventory carrying costs, improve inventory turnover, and enhance profitability among manufacturing firms.

Similarly, Taube and Minner (2023) investigated optimal inventory control with cyclic fixed order costs, focusing on how ordering cycles and replenishment intervals affect inventory control efficiency. The study adopted a quantitative operational research design and developed a mathematical inventory optimisation model to evaluate the relationship between ordering intervals, ordering costs, inventory holding costs, and system performance. The findings indicated that the timing and frequency of orders significantly influence inventory cost performance, with well-designed ordering intervals reducing unnecessary inventory accumulation and improving operational efficiency.. Magaji, Suleiman, and Hassan (2024) examined the application of Economic Order Quantity strategy and its implications for organisational performance using Nina Plastic Ltd, Nigeria, as a case study. The study adopted a case study research design, focusing on inventory purchasing activities within the organisation. Data were obtained through preliminary surveys, field observations, and review of inventory records. The study analysed data using descriptive analysis and EOQ mathematical computations to determine the optimal ordering quantity for selected products. Findings revealed that the application of EOQ significantly improved inventory decision-making by identifying the most cost-effective order quantities.

Kifordu, Orishede, and Egbo (2024) examined inventory management practices and firm performance among selected manufacturing firms in South-South Nigeria. The research adopted a cross-sectional survey design and focused on employees from selected aluminium manufacturing firms, including departments such as production, purchasing, marketing, maintenance, stores, and accounts. The population consisted of employees from four selected manufacturing firms, while a sample size of 175 respondents was determined using proportional allocation techniques. Data were collected using structured questionnaires administered to selected employees. The study analysed the collected data using descriptive statistics and inferential techniques, including regression analysis, to determine the relationship between inventory management practices and firm performance. Findings revealed that effective inventory monitoring and control practices significantly improved firm performance through better stock availability, reduced inventory losses, and improved operational coordination. Nuwagaba (2024) examined the relationship between inventory management and organisational performance among manufacturing firms in Mbarara City, Uganda. The researcher adopted a cross-sectional research design and collected data from employees of manufacturing firms operating in Mbarara City. The study population consisted of employees involved in production and inventory-related activities, while a sample size of 133 respondents was selected for the investigation. Data were collected using structured questionnaires and analysed using descriptive statistics and inferential analysis. The findings showed that inventory management had a significant positive relationship with organisational performance.

Rekik, et. al. (2025) examined the relationship between inventory record inaccuracy and stock-counting practices in the retail sector. The study was conducted using data obtained from a large grocery retail environment involving approximately 24,000 stock-keeping units across 11 stores. The data were analysed using statistical techniques to examine the relationship between inventory inaccuracies, stock-count frequency, product characteristics, and sales outcomes. The findings revealed that inventory inaccuracies negatively affected operational efficiency, while targeted stock counting and inventory audits improved inventory accuracy and enhanced sales performance. In addition, Ogbaisi and Aigbokhaevbolo (2025) examined the effect of inventory control systems on the performance of consumer goods manufacturing firms in Nigeria. The research adopted an ex-post facto research design and focused on quoted consumer goods manufacturing firms listed on the Nigerian Exchange Market. The population consisted of 16 quoted consumer goods firms, covering the period from 2018 to 2024. Secondary data were collected from annual reports and financial statements of the selected firms, while data analysis was conducted using the robust least squares regression technique. The findings revealed that inventory control systems influence organisational performance because effective monitoring of

raw materials, work-in-progress inventory, and finished goods improves managerial decision-making and operational control.

Conceptual Framework

This presents the diagrammatical connectivity between the dependent and the independent variables as presented in figure 2.1 below:

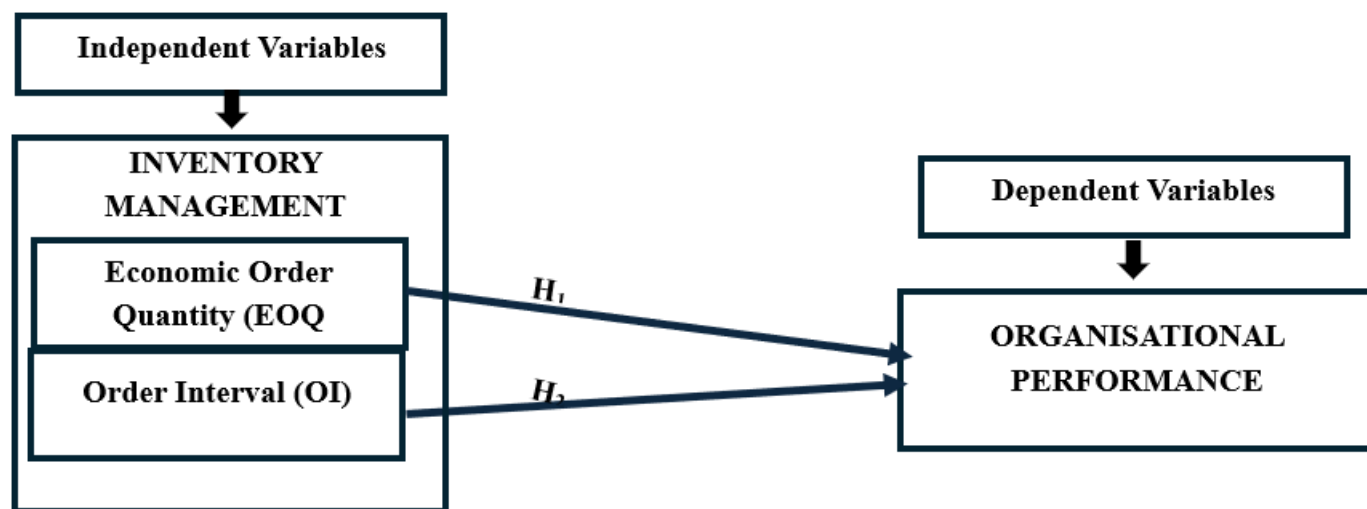


Figure 2.1: Author's Conceptual Framework (2026)

METHODOLOGY

This study adopted a descriptive survey research design. The descriptive survey design allows for the description of existing inventory management practices and facilitates the analysis of the individual and combined effects of Economic Order Quantity (EOQ), Just-in-Time (JIT), Periodic Inventory Technique (PIT), and Vendor Managed Inventory (VMI) on organisational performance. The population of the study comprised of 1,078 registered manufacturing firms operating in Lagos, Ogun, and Oyo States, Nigeria. These three states were selected because they represent the major industrial hubs in Southwest Nigeria, with a high concentration of manufacturing activities, industrial clusters, and registered firms across different sectors. For this study, the sample size was determined using Yamane's (1967) formula:

$$n = \frac{N}{1 + N(e)^2}$$

Where: n = Sample Size; N = population size; e = error term (0.05)

Given a population of 1,078 manufacturing firms in Southwest, Nigeria, the sample size was calculated as follows:

$$n = \frac{1078}{1 + 1078(0.05)^2}$$

$$n = 291.74$$

$$n \approx 292$$

Thus, the sample size for the study was 292 respondents. The study used random and proportional sampling methods. To encourage voluntary involvement, the respondents to whom the questionnaires were sent were selected using a random sampling approach rather than a proportionate sampling technique for each institution.

$$n = \frac{N!n!}{N}$$

Table 3.1: Sample Size of the Study

S/n	State	No. of Registered Manufacturing Firms	Sampled Manufacturing Firms
1	Lagos	566	$n = \frac{566(292)}{1078} = 126$
2	Ogun	305	$n = \frac{305(292)}{1078} = 68$
3	Oyo	207	$n = \frac{207(292)}{1078} = 46$
		1,078	292

Source: Researcher Computation (2026)

The study relied primarily on primary data obtained directly from respondents in selected manufacturing firms in Lagos, Ogun, and Oyo States, Nigeria. The respondents comprised inventory managers, procurement officers, warehouse supervisors, supply chain managers, and other operational personnel directly involved in inventory management activities. Data for the study were collected using a structured, close-ended questionnaire designed in line with the research objectives. The study employed simple and multiple linear regression as the major techniques for data analysis in examining the influence of inventory management on organisational performance of selected manufacturing firms in Southwest Nigeria. The regression models were considered appropriate because they enabled the determination of the direction, magnitude, and significance of the relationship between the independent variables and the dependent variable.

The study adapted the model of Onu, Odunmabaku and Akinlabi (20201) who examined the connectivity between strategic marketing and performance of selected insurance companies in Lagos state, Nigeria. The model is given thus:

$$OP = f(IT, ICC, WM) \dots\dots\dots 3.1$$

Where:

OP = Organisational Performance

IT = Information Technology

ICC = Inventory Cycle Counting

WM = Warehouse Management

However, some modifications will be made with the intention of achieving the stated objectives of the study. Economic Order Quantity (EOQ), and Order Interval (OI) were considered as the predictors while organisational performance was considered as the dependent variable. Therefore, the functional representation of the modified model is as follows:

$$OP = f(EOQ, OI) \dots\dots\dots 3.2$$

Model for Objective One

The first objective of the work is to examine the effect of Economic Order Quantity (EOQ) on organizational performance of selected manufacturing firms in Southwest, Nigeria. to achive this objective, the following model was formulated:

$$OP = f(EOQ) \dots\dots\dots 3.3$$

$$OP = \beta_0 + \beta_1 EOQ + \epsilon \dots\dots\dots 3.4$$

Where:

OP = Organisational Performance, EOQ = Economic Order Quantity, β_0 = Constant Term (Intercept), β_1 = Regression Coefficients of the Independent Variables

Model for Objective Two

The second objective of the work is to examine the effect of order interval (OI) on organisational performance of selected manufacturing firms in Southwest, Nigeria. To achieve this objective, the following model was formulated:

$$OP = f(OI) \dots \dots \dots 3.5$$

$$OP = \beta_0 + \beta_1 OI + \epsilon \dots \dots \dots 3.6$$

Where:

OP = Organisational Performance, OI = Order Interval, β_0 = Constant Term (Intercept), β_1 = Regression Coefficients of the Independent Variables

RESULTS AND DISCUSSION

Result

Analysis of the Administered Questionnaire

Table 4.1: Distribution of Questionnaire by States

S/N	States	Nos. Distributed	Nos. Returned	Return Rate
1	Lagos	126	120	95.2
2	Ogun	68	64	94.1
3	Oyo	46	42	91.3
TOTAL		292	276	100

Source: Researcher's Data Output (2026)

Table 4.1 presents the distribution and return of questionnaires across the three selected states in Southwest Nigeria. A total of 292 questionnaires were administered to respondents in selected manufacturing firms, out of which 276 were successfully retrieved, representing an overall response rate of 94.5%. Lagos State recorded the highest number of questionnaires distributed (126) and returned (120), representing a return rate of 95.2%. Ogun State followed with 68 questionnaires distributed and 64 returned, giving a response rate of 94.1%, while Oyo State had 46 questionnaires distributed and 42 returned, representing a response rate of 91.3%.

Descriptive Statistics Analysis of Respondents

Table 4.2 Bio-data of the Respondents

Variable	Category	Frequency	Percentage
Gender	Male	173	62.7
	Female	103	37.3
Age	Below 30 years	28	10.1
	31–40 years	94	34.1
	41–50 years	89	32.2
	51–60 years	49	17.8
	Above 60 years	16	5.8
Marital Status	Single	72	26.1
	Married	181	65.6

	Divorced	15	5.4
	Widowed	8	2.9
Highest Educational Qualification	NCE/HND	41	14.9
	B.Sc./B.A./B.Tech	118	42.8
	MBA/M.Sc.	64	23.2
	M.Phil.	13	4.7
	Ph.D.	22	8
	Professional Qualification	18	6.5
Current Position in the Organisation	Executive Director	17	6.2
	Managing Director/CEO	24	8.7
	General Manager	56	20.3
	Senior Manager	127	46
	Others	52	18.8
Years of Managerial Experience	Less than 5 years	35	12.7
	5–10 years	81	29.3
	11–15 years	74	26.8
	16–20 years	49	17.8
	Above 20 years	37	13.4
Years of Experience in Manufacturing Industry	Less than 5 years	29	10.5
	5–10 years	78	28.3
	11–15 years	82	29.7
	16–20 years	51	18.5
	Above 20 years	36	13
Type of Manufacturing Firm	Food and Beverage	92	33.3
	Textile and Clothing	39	14.1
	Chemical and Allied Products	56	20.3
	Electrical/Electronics	34	12.3
	Building Materials/Cement	31	11.2
	Others	24	8.7

Source: Data Output, 2026

Table 4.2 presents the demographic characteristics of the 276 respondents drawn from selected manufacturing firms in Lagos, Ogun, and Oyo States. The results show that 173 respondents (62.7%) were male, while 103 (37.3%) were female, indicating that males constituted the larger proportion of respondents. Regarding age, 28 respondents (10.1%) were below 30 years, 94 (34.1%) were between 31 and 40 years, 89 (32.2%) were between 41 and 50 years, 49 (17.8%) were between 51 and 60 years, while 16 (5.8%) were above 60 years. This indicates that most respondents were within the economically active age brackets and were likely to possess relevant experience in inventory management and organisational operations.

With respect to marital status, 181 respondents (65.6%) were married, 72 (26.1%) were single, 15 (5.4%) were divorced, and 8 (2.9%) were widowed. In terms of educational qualification, 41 respondents (14.9%) possessed NCE/HND qualifications, 118 (42.8%) held B.Sc./B.A./B.Tech degrees, 64 (23.2%) possessed MBA/M.Sc. degrees, 13 (4.7%) had M.Phil. qualifications, 22 (8.0%) possessed Ph.D. degrees, while 18 (6.5%) held professional qualifications. Regarding organisational position, 17 respondents (6.2%) were Executive Directors, 24 (8.7%) were Managing Directors/Chief Executive Officers, 56 (20.3%) were General Managers, 127 (46.0%) were Senior Managers, while 52 (18.8%) occupied other operational and supervisory positions.

Concerning managerial experience, 35 respondents (12.7%) had less than five years of experience, 81 (29.3%) had 5–10 years, 74 (26.8%) had 11–15 years, 49 (17.8%) had 16–20 years, while 37 (13.4%) had over 20 years. Similarly, industry experience revealed that 29 respondents (10.5%) had less than five years, 78 (28.3%) had 5–10 years, 82 (29.7%) had 11–15 years, 51 (18.5%) had 16–20 years, while 36 (13.0%) had above 20 years of manufacturing experience. Finally, 92 respondents (33.3%) were from food and beverage firms, 39 (14.1%) from

textile and clothing firms, 56 (20.3%) from chemical and allied products firms, 34 (12.3%) from electrical and electronics firms, 31 (11.2%) from building materials and cement firms, while 24 (8.7%) represented other manufacturing subsectors.

Test of Hypotheses

Hypothesis I: Economic Order Quantity (EOQ) has no significant effect on organisational performance of selected manufacturing firms in Southwest, Nigeria.

Table 4.3: Simple Linear Regression for Hypotheses I

Dependent Variable: organisational performance of selected manufacturing firms in Southwest, Nigeria

Variables	Coefficient (β)	Std. Error	T-Value	P-Value
Constant	0.212	0.073	2.91	0.004
Economic Order Quantity (EOQ)	0.152	0.048	3.17	0.002
R = 0.687 F-statistics = 39.52 $R^2 = 0.472$ P-value = 0.0000001 Adjusted $R^2 = 0.460$				

Source: SPSS Output (2026)

Table 4.3 shows that Economic Order Quantity (EOQ) has a positive and significant effect on organisational performance. The model explains 47.2% of the variation in organisational performance ($R^2 = 0.472$), while the F-statistic of 39.52 ($p < 0.05$) confirms that the model is statistically significant. EOQ has a positive coefficient of 0.152 with a p-value of 0.002, indicating that improved EOQ practices significantly enhance organisational performance. The null hypothesis is therefore rejected. Diagnostic tests further indicate that the regression model satisfies the assumptions of normality, homoscedasticity, and independence, confirming the reliability of the results.

Hypothesis II: Order Interval (OI) has no significant effect on organisational performance of selected manufacturing firms in Southwest, Nigeria.

Table 4.4: Simple Linear Regression for Hypotheses II

Dependent Variable: organisational performance of selected manufacturing firms in Southwest, Nigeria

Variables	Coefficient (β)	Std. Error	T-Value	P-Value
Constant	0.184	0.069	2.67	0.008
Order Interval (OI)	0.276	0.057	4.84	0.000
R = 0.721 F-statistics = 56.37 $R^2 = 0.521$ P-value = 0.0000001 Adjusted $R^2 = 0.514$				

Source: SPSS Output (2026)

Table 4.4 shows that Order Interval (OI) has a positive and significant effect on organisational performance of selected manufacturing firms in Southwest Nigeria. The model indicates a strong relationship ($R = 0.721$), with OI explaining 52.1% of the variation in organisational performance ($R^2 = 0.521$; adjusted $R^2 = 0.514$). The model is statistically significant ($F = 56.37$, $p < 0.05$), confirming its overall fitness. The regression coefficient ($\beta = 0.276$, $p = 0.000$) indicates that effective order interval practices significantly improve organisational performance. Thus, the null hypothesis is rejected, and the study concludes that Order Interval has a significant positive effect on organisational performance among selected manufacturing firms in Southwest Nigeria.

DISCUSSION OF FINDINGS

This study provides valuable insights into the effect of inventory management practices on organisational performance of selected manufacturing firms in Southwest Nigeria. Several statistical analyses were conducted; however, the findings from the formulated hypotheses serve as the basis for the discussion. The regression analysis established that Economic Order Quantity (EOQ) has a positive and significant effect on organisational performance of selected manufacturing firms in Southwest Nigeria to the tune of 0.152 ($p = 0.002 < 0.05$). This finding indicates that effective application of EOQ principles enhances firm performance by enabling manufacturing organisations to determine optimal order quantities, minimise inventory-related costs, reduce excessive stock accumulation, and maintain adequate inventory levels for uninterrupted production activities. The positive relationship suggests that firms that adopt systematic approaches to inventory ordering are better positioned to improve operational efficiency, reduce waste, enhance resource utilisation, and achieve improved organisational outcomes. The finding is consistent with the empirical evidence from previous studies. For instance, Opoku (2022) found that inventory management strategies, including Economic Order Quantity, significantly improved operational efficiency, inventory optimisation, and supply chain coordination among food processing firms in Ghana. .

Also, it was established that Order Interval (OI) has a positive and significant effect on organisational performance of selected manufacturing firms in Southwest Nigeria to the tune of 0.276 ($p = 0.000 < 0.05$). This finding indicates that effective determination of inventory replenishment intervals contributes significantly to improving firm performance by ensuring timely availability of materials, reducing inventory shortages, minimising unnecessary stock accumulation, and enhancing production continuity. The positive coefficient suggests that manufacturing firms that establish appropriate intervals for placing inventory orders are more likely to achieve improved operational efficiency, better resource utilisation, and enhanced organisational outcomes. The finding is supported by several empirical studies reviewed. Karakatsoulis and Skouri (2023) found that appropriate inventory review intervals improved stock availability, reduced inventory costs, and enhanced supply chain responsiveness. Similarly, Taube and Minner (2023) revealed that properly designed order intervals improved inventory cost performance by reducing unnecessary inventory accumulation and balancing ordering and holding costs.

CONCLUSION AND RECOMMENDATION

The study revealed that inventory management significantly influences organisational performance of selected manufacturing firms in Southwest Nigeria, although the magnitude and significance of the effects vary across the different dimensions of inventory management examined. Specifically, Economic Order Quantity (EOQ) and Order Interval (OI) were found to have positive and statistically significant effects on organisational performance, indicating that effective determination of optimal order quantities and proper scheduling of inventory replenishment activities contribute significantly to improved operational efficiency, cost reduction, resource utilisation, and production continuity. Hence, the study concludes that there is a statistically significant effect of inventory management on the organizational performance of selected manufacturing firms in Southwest, Nigeria. The following recommendations were made:

1. Manufacturing firms should strengthen the adoption of Economic Order Quantity (EOQ) techniques to improve inventory decision-making and organisational performance. Since EOQ was found to have a positive and significant effect on organisational performance, firms should implement scientific approaches for determining optimal order quantities that balance ordering and holding costs. This would help reduce excessive inventory accumulation, minimise storage costs, prevent stock shortages, and improve the efficient utilisation of financial and material resources.
2. Manufacturing firms should develop effective Order Interval (OI) systems by establishing appropriate inventory replenishment schedules. The significant effect of Order Interval on organisational performance indicates that proper timing and frequency of inventory ordering are essential for maintaining production continuity and operational efficiency. Firms should adopt structured inventory review periods, demand forecasting techniques, and automated reorder systems to ensure that materials are available when needed while avoiding unnecessary inventory costs.

REFERENCES

1. Afrifa, G., Tauringana, V., & Tingbani, I. (2021). Abnormal inventory levels and manufacturing firm performance in the United Kingdom. *International Journal of Production Economics*, 231(1), 107–126.
2. Agu, O., Obi-Anike, H., & Eke, C. (2021). Inventory control practices and organisational productivity among manufacturing firms in Nigeria. *African Journal of Business and Economic Research*, 16(2), 133–152.
3. Anantadjaya, S., Nawangwulan, I., & Santoso, B. (2021). Inventory management and financial performance among manufacturing firms in Indonesia. *Journal of Asian Business and Economic Studies*, 28(3), 188–207.
4. Andersen, H., & Larsen, B. (2022). Inventory optimization strategies and operational performance among Norwegian manufacturing firms. *European Journal of Logistics and Supply Chain Management*, 10(2), 66–84.
5. Babatunde, A., Adetola, J., & Bello, K. (2025). Manufacturing performance and operational sustainability in Nigeria. *Nigerian Journal of Industrial Economics*, 14(2), 70–89.
6. Babatunde, A., Bello, T., Ajayi, M., & Balogun, R. (2025). Inventory management and firm performance nexus in listed manufacturing companies. *Journal of Accounting and Financial Management*, 11(3), 101–120.
7. Eze, C., Okafor, I., & Nwosu, B. (2022). Economic Order Quantity systems and inventory turnover among manufacturing firms in Nigeria. *Nigerian Journal of Management Sciences*, 21(3), 117–136.
8. Gara, M., & Adamu, K. (2026). Inventory-related inefficiencies and profitability of industrial goods firms in Nigeria. *Journal of Industrial and Corporate Performance*, 9(1), 52–70.
9. Goldratt, E. M. (1984). *The goal: A process of ongoing improvement*. North River Press.
10. Ilori, A., & Majiyagbe, K. (2024). Inventory control systems and operational efficiency of manufacturing firms in Southwest Nigeria. *International Journal of Operations and Production Management*, 9(1), 84–103.
11. Kwateng, K., Mensah, P., & Adu, G. (2022). Vendor Managed Inventory systems and operational performance in manufacturing industries. *African Journal of Logistics and Operations Research*, 8(2), 67–86.
12. Nuwagaba, J. P. (2024). Inventory management practices and operational performance within cement manufacturing firms in Kenya. *East African Journal of Business and Management Studies*, 9(3), 54–72.
13. Nwaiku, C., & Ejechi, E. (2022). Inventory management practices and organisational productivity among manufacturing firms in Nigeria. *Journal of Contemporary Management Research*, 8(2), 91–110.
14. Ogah, J., Asiegbu, I., & Moradeyo, A. (2022). Raw material inventory management and operational performance among manufacturing firms in Nigeria. *Journal of Nigerian Industrial Economics*, 12(4), 143–162.
15. Ogunleye, M., & Ibrahim, T. (2024). Organisational performance trends in Nigerian manufacturing firms. *International Journal of Organisational Performance*, 9(3), 58–77.
16. Okonkwo, A., & Ojo, B. (2023). Inventory practices and supply chain coordination in Nigerian manufacturing firms. *Journal of Supply Chain and Production Economics*, 12(4), 90–109.
17. Opoku, D. (2022). Inventory management strategies and operational flexibility in manufacturing firms. *International Journal of Production and Operations Management*, 17(3), 120–139.
18. Opoku, D., Mensah, K., & Boateng, P. (2021). Inventory management practices and operational performance among manufacturing firms in Ghana. *African Journal of Operations and Supply Chain Management*, 13(2), 88–107.
19. Oshioyenoya, A., & Faruq, K. (2025). Inventory monitoring and organisational performance among manufacturing firms in Nigeria. *Journal of Operational Performance and Management*, 13(1), 93–111.
20. Panigrahi, S., Rao, P., & Das, K. (2021). Effect of inventory management practices on the performance of manufacturing firms in India. *International Journal of Supply Chain Management*, 10(3), 91–110.
21. Shah, N., & Thegar, R. (2021). Inventory management techniques and organisational performance of manufacturing firms in the United Kingdom. *International Journal of Business and Management Review*, 9(4), 44–61.