EFFECT OF SOCIAL AND ENVIRONMENTAL REPORTING ON THE FINANCIAL PERFORMANCE OF LISTED INDUSTRIAL GOODS FIRMS IN NIGERIA

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Abstract
The industrial goods sector is a critical component of Nigeria contributing significantly to economic growth and development. This study investigates the effect of environmental reporting and social reporting on the financial performance of listed industrial goods firms in Nigeria. The study population comprised all 13 listed industrial goods firms on the Nigerian Exchange Group during the 2018 to 2022 period, utilizing a census sampling technique. The study adopted an ex post facto descriptive research design, utilizing secondary data and panel data analysis techniques. Social reporting and environmental reporting do not have a statistically significant effect on the financial performance (return on assets). suggest the need for policymakers and industry leaders to better align these practices with investor preferences to enhance the sector's overall viability.
Keywords: *Social reporting, environmental reporting, financial performance, listed industrial goods firms in Nigeria.*

INTRODUCTION

The global industrial goods sector has seen significant growth in recent years, with the worldwide industrial goods market projected to reach $6.2 trillion by 2027, growing at a CAGR of 4.9% from 2020 to 2027 (Grand View Research, 2022). In Africa, the industrial goods market is also expanding, with the continent's manufacturing output expected to reach $666.3 billion by 2025, up from $500.7 billion in 2020, driven by increased investment and policy initiatives (African Development Bank, 2021). Nigeria, as a major economy in Africa, has also witnessed growth in its industrial sector, with the country's manufacturing Purchasing Managers' Index (PMI) reaching 53.8 in March 2022, indicating expansion in the sector (Oboh & Ajayi, 2022).

Return on assets (ROA) is a widely used metric to measure the financial performance of firms, as it reflects a company's ability to generate profits from its assets (Abubakar et al., 2021). Firms with higher ROA are generally considered more efficient in utilizing their resources to generate returns (Gerged et al., 2020). In recent years, there has been a growing emphasis on the integration of social and environmental reporting into corporate performance measures, as firms face increasing pressure from stakeholders to demonstrate their commitment to sustainable business practices (Hu et al., 2022).

Social and environmental reporting involves the disclosure of information related to a company's social and environmental impacts, including its policies, practices, and performance in these areas (Papoutsi & Sodhi, 2020). This type of reporting has gained importance as stakeholders, including investors, customers, and regulators, demand greater transparency and accountability from businesses (Nandy & Lodh, 2021).
Social reporting encompasses the disclosure of information related to a company's treatment of its employees, community engagement, and other social responsibilities (Rossi et al., 2022). Firms that prioritize social reporting often demonstrate a commitment to fair labor practices, employee development, and community investment, which can contribute to their overall reputation and financial performance (Lubberink et al., 2019).

Environmental reporting, on the other hand, focuses on the disclosure of information related to a company's environmental impact, such as its greenhouse gas emissions, waste management practices, and use of natural resources (Liao et al., 2021). Firms that effectively manage and report on their environmental performance may benefit from improved stakeholder relationships, reduced regulatory risks, and enhanced operational efficiency (Setyadi et al., 2022).

The introduction of the Nigerian Code of Corporate Governance (NCCG) in 2018 mandates sustainability disclosure for publicly listed companies, aiming to reshape the public image of the Nigerian business landscape and attract foreign direct investment. However, despite this regulatory push, social reporting and environmental reporting levels among firms in Nigeria, remain relatively low, highlighting the need for further investigation. The declining trend of 20% on an average in return on assets of the listed industrial goods firms in Nigeria, in the past seven years underscores the need for investors to better understand the impact of social and environmental reporting on the financial performance. Existing research on the effect of social and environmental reporting on firm performance produces conflicting views, with some studies documenting a positive association (Albitar et al., 2020; Amran & Siti-Nabiha, 2022) while others finding a negative but insignificant link (Ezejiofor et al., 2016; Bessong & Tapang, 2016), suggesting the need to further investigate this relationship in the Nigerian context and specific sectors. The persistence of this study is rooted in its potential to provide valuable insights into the effect of social reporting and environmental reporting on firm performance, thereby enhancing integration of social reporting into core business strategy and increasing transparency and effectiveness of environmental reporting.

The main objective of this study is to investigate the effect of social and environmental reporting on the financial performance of listed industrial goods firms in Nigeria. The broad objective can be broken down into more specific sub-objectives: To examine the effect of social reporting on the performance of listed industrial goods firms in Nigeria; To assess the effect of environmental reporting on the performance of listed industrial goods firms in Nigeria.

LITERATURE REVIEW

Conceptual Review

Social and environmental reporting refers to the disclosure of information related to a company's social and environmental impacts, including its policies, practices, and performance in these areas (Papoutsi & Sodhi, 2020; Xu & Cui, 2023; Ullah et al., 2023). This type of reporting has gained importance as stakeholders, including investors, customers, and regulators, demand greater transparency and accountability from businesses (Nandy & Lodh, 2021; Rao & Hossain, 2022; Nechita et al., 2023). Social reporting encompasses the disclosure of information related to a company's treatment of its employees, community engagement, and other social responsibilities, while environmental reporting focuses on the disclosure of information related to a company's environmental impact, such as its greenhouse gas emissions, waste management practices, and use of natural resources (Rossi et al., 2022; Saenko et al., 2022; Srivastava et al., 2023). For the purpose of this study, social and environmental reporting is defined as the disclosure of information related to a company's social and environmental impacts, policies, practices, and performance.

Social reporting is the disclosure of information related to a company's treatment of its employees, community engagement, and other social responsibilities (Rossi et al., 2022; Srivastava et al., 2023; Khan et al., 2023). Firms that prioritize social reporting often demonstrate a commitment to fair labor practices, employee development, and community investment, which can contribute to their overall reputation and financial performance (Lubberink et al., 2019; Mahmood et al., 2023). Social reporting has become increasingly important as stakeholders demand greater transparency and accountability from businesses regarding their social impacts (Nandy & Lodh, 2021; Rao & Hossain, 2022). For the purpose of this study, social reporting is defined as the disclosure of information related to a company's treatment of its employees, community engagement, and other social responsibilities.

Similarly, environmental reporting is a way in which information related to a company's environmental impact, such as its greenhouse gas emissions, waste management practices, and use of natural resources (Liao et al., 2021; Saenko et al., 2022; Xu & Cui, 2023). Firms that effectively manage and report on their environmental performance may benefit from improved stakeholder relationships, reduced regulatory risks, and enhanced operational efficiency (Setyadi et al., 2022; Ullah et al., 2023). Environmental reporting has gained importance as stakeholders, including investors and regulators, demand greater transparency and accountability from businesses regarding their environmental impacts (Papoutsi & Sodhi, 2020; Nechita et al., 2023). For the purpose of this study, environmental reporting is defined as the disclosure of information related to a company's environmental impact, policies, practices, and performance.

Return on assets (ROA) is a widely used metric to measure the financial performance of firms, as it reflects a company's ability to generate profits from its assets (Abubakar et al., 2021; Atemkeng & Njanike, 2022; Mahmood et al., 2023). Firms with higher ROA are generally considered more efficient in utilizing their resources to generate returns (Gerged et al., 2020; Hu et al., 2022). ROA has been used in various studies as a measure of financial performance, as it provides insights into a company's profitability and overall efficiency (Adekunle et al., 2022; Anyanwu et al., 2023). For the purpose of this study, financial performance, as measured by return on assets (ROA), is defined as a company's ability to generate profits from its assets.

Empirical Review

Hu et al. (2022) examined the moderating role of corporate governance in the relationship between corporate social responsibility (CSR) and firm performance. The study's objectives were to investigate the direct effect of CSR on firm performance, as well as the moderating influence of corporate governance on this relationship. The researchers used a sample of 300 firms listed on the Shanghai Stock Exchange and Shenzhen Stock Exchange in China, with data collected from 2010 to 2018. The study employed panel data analysis and found that CSR has a positive effect on firm performance, measured by return on assets (ROA). Additionally, the results showed that corporate governance positively moderates the relationship between CSR and firm performance. A critique of this study is that it focused solely on the Chinese market, and the findings may not be generalizable to other countries or regions.

Srivastava et al. (2023) investigated the moderating role of family ownership on the relationship between corporate social responsibility (CSR) and firm performance. The study's objectives were to examine the direct effect of CSR on firm performance, as well as the moderating impact of family ownership. The researchers used a sample of 200 Indian manufacturing firms listed on the Bombay Stock Exchange, with data collected from 2015 to 2020. The study employed panel data analysis and found that CSR has a positive effect on firm performance, measured by ROA. Additionally, the results showed that family ownership positively moderates the relationship between CSR and firm performance. A critique of this study is that it focused on a specific industry (manufacturing) in a single country, and the findings may not be applicable to other sectors or regions.

Khan et al. (2023) examined the mediating role of employee engagement in the relationship between corporate social responsibility (CSR) and firm performance. The study's objectives were to investigate the direct effect of CSR on firm performance, as well as the mediating influence of employee engagement. The researchers used a sample of 300 firms operating in the service sector in Pakistan, with data collected from 2018 to 2021. The study employed structural equation modeling and found that CSR has a positive effect on firm performance, measured by ROA. Additionally, the results showed that employee engagement partially mediates the relationship between CSR and firm performance. A critique of this study is that it focused on the service sector in a single country, and the findings may not be applicable to other industries or regions.

Setyadi et al. (2022) investigated the effect of environmental performance, environmental disclosure, and environmental management on firm value. The study's objectives were to examine the relationship between these environmental factors and firm value, measured by Tobin's Q. The researchers used a sample of 183 manufacturing firms listed on the Indonesia Stock Exchange, with data collected from 2015 to 2019. The study employed multiple regression analysis and found that environmental performance and environmental disclosure have a positive effect on firm value. However, the study did not specifically explore the relationship between environmental reporting and return on assets (ROA). A critique of this study is that it focused on firm value rather than financial performance measures like ROA.

Xu and Cui (2023) investigated the impact of environmental disclosure on firm financial performance, with the mediating role of environmental innovation. The study's objectives were to examine the direct effect of environmental disclosure on firm financial performance, as well as the mediating influence of environmental innovation. The researchers used a sample of 300 Chinese manufacturing firms listed on the Shanghai and Shenzhen Stock Exchanges, with data collected from 2010 to 2019. The study employed structural equation modeling and found that environmental disclosure has a positive effect on firm financial performance, measured by ROA, and that this relationship is partially mediated by environmental innovation. A critique of this study is that it focused on a specific industry (manufacturing) in a single country, and the findings may not be applicable to other sectors or regions.

Saenko et al. (2022) examined the role of environmental reporting as a tool for improving the environmental transparency of industrial enterprises. The study's objectives were to analyze the current state of environmental reporting in the Russian industrial sector and to develop recommendations for improving environmental transparency. The researchers used a sample of 50 industrial enterprises in Russia, with data collected from their annual reports and sustainability reports. The study employed content analysis and found that environmental reporting can contribute to improving the environmental transparency of industrial enterprises, which may have a positive effect on their financial performance, including ROA. However, the study did not directly test the relationship between environmental reporting and ROA. A critique of this study is that it focused on a specific country (Russia) and did not provide empirical evidence on the direct relationship between environmental reporting and financial performance.

Legitimacy Theory

The Legitimacy Theory, propounded by Suchman in 1995, posits that organizations seek to operate within the bounds and norms of their respective societies, and that their continued existence depends on the perception that their actions are legitimate (Suchman, 1995). According to this theory, organizations engage in social and environmental reporting to demonstrate their compliance with societal expectations and to maintain their "social license to operate." The Legitimacy Theory is highly relevant to the present study, as it suggests that firms that effectively engage in social and environmental reporting may be better able to maintain their legitimacy and avoid potential sanctions or reputational damage, which can subsequently impact their financial performance, measured by return on assets (ROA). The theory provides a theoretical explanation for why firms may voluntarily disclose social and environmental information, as a way to manage their legitimacy and meet the expectations of their stakeholders, which can ultimately lead to improved financial outcomes.

METHODOLOGY

The study employed an ex post facto descriptive design to investigate the effect of environmental reporting, social reporting, governance reporting, on the firm value of listed industrial goods firms in Nigeria. Ex post facto descriptive design is a non-causal research method that seeks to describe and understand the relationships between variables that have already occurred using secondary data. The sample comprised all 13 listed industrial goods firms on the Nigerian Exchange Group during the study period, utilizing a census sampling approach to ensure comprehensive representation of the sector and minimize sampling bias. Financial and non-financial data were collected from the firms' annual reports and financial statements.

The study utilized panel data analysis techniques, including fixed-effect, random-effect, and pooled linear regression models, to examine the relationships between the variables. The choice between fixed-effect and random-effect models was determined by conducting the Hausman specification test. To ensure the validity and reliability of the regression results, post-estimation tests, such as the Breusch-Pagan / Cook-Weisberg test for heteroskedasticity and Variance Inflation Factor (VIF) analysis to address potential econometric issues were performed.

The justification for the research design, data collection method, and analytical techniques demonstrates their appropriateness for the study's objectives on the Nigerian industrial goods sector context. This quantitative research approach using secondary data analysis allows for a comprehensive investigation of the effect of environmental and social reporting on the firm value of the listed industrial goods firms in

Nigeria during the 2018 to 2022 period. The purposive sampling technique and the use of panel data regression models, including robustness checks, ensure the reliability and validity of the findings.

ESG Metrics was adapted from Dhaliwal et al., (2021) and (Flammer & Kacperczyk, 2023) in the measurement of variables as stated in the table below.

Table 1: Measurement of Variables

SN	Variables	Metrics	
1	Environmental Reporting	Reduced Waste, Energy Efficiency and Climate Change Regulations.	Dhaliwal et al., (2021)
2	Social reporting	Donations(N), Contributions(N) and social investment(N).	Dhaliwal et al., (2021)
3	Financial Performance	Return on Asset	(Flammer & Kacperczyk, 2023)

RESULTS AND DISCUSSION

Table 2: Summary Statistics

	Mean	Min	max	skewness	kurtosis	N
socr	53024.294	0	1073681	4.239	19.423	60
envr	.967	0	1	-5.199	28.034	60
roa	.08	-.15	.42	.735	4.698	60

Source: Stata/IC

The mean value for social reporting (socr) is 53,024.294, with a minimum of 0 and a maximum of 1,073,681. The high kurtosis value of 19.423 indicates that the distribution has a heavy tail. The mean value for environmental reporting (envr) is 0.967, with a minimum of 0 and a maximum of 1. The high skewness value of -5.199 suggests that the distribution is negatively skewed. The mean value for return on assets (roa) is 0.080, with a minimum of -0.15 and a maximum of 0.42. The kurtosis value of 4.698 indicates a somewhat peaked distribution.

Table 3: Shapiro-Wilk W Test for Normal Data

Variable	Obs	W	V	z	Prob>z
socr	60	0.268	39.777	7.939	0.000
envr	60	0.784	11.726	5.306	0.000
roa	60	0.962	2.086	1.585	0.057

Source: Stata/IC

The Shapiro-Wilk test results show that the social reporting (socr) and environmental reporting (envr) variables are not normally distributed, as the p-values are less than 0.05. The return on assets (roa) variable, however, is normally distributed, as the p-value of 0.057 is greater than the 0.05 significance level.

Table 4: Pairwise correlations

Variables	(1)	(2)
(1) socr	1.000	
(2) envr	0.039	1.000
	(0.769)	

** shows significance at p<.05*

Source: Stata/IC

The correlation between social reporting (socr) and environmental reporting (envr) is 0.039, which is not statistically significant (p-value = 0.769). This suggests that the two variables are not strongly correlated with each other.

Table 5: Fixed Effect Regression results

roa	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
socr	0	0	-0.22	.823	0	0	

envr	-.015	.059	-0.25	.8	-.134	.104
Constant	.096	.058	1.65	.106	-.021	.212
Mean dependent var	0.080		SD dependent var		0.098	
R-squared	0.002		Number of obs		60	
F-test	0.057		Prob > F		1.000	
Akaike crit. (AIC)	-150.984		Bayesian crit. (BIC)		-144.701	

**** p<.01, ** p<.05, * p<.1*

Source: Stata/IC

The fixed-effect regression model shows that neither social reporting (socr) nor environmental reporting (envr) has a statistically significant effect on return on assets (roa). The coefficient for social reporting is 0, with a t-value of -0.22 and a p-value of 0.823. The coefficient for environmental reporting is -0.015, with a t-value of -0.25 and a p-value of 0.8. The model has a very low R-squared of 0.002, indicating that it explains only 0.2% of the variation in the dependent variable (roa).

Table 6: Random Effect Regression results

roa	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
socr	0	0	0.04	.966	0	0	
envr	-.013	.057	-0.23	.819	-.125	.099	
Constant	.093	.06	1.54	.123	-.025	.21	
Mean dependent var	0.080		SD dependent var		0.098		
Overall r-squared	0.001		Number of obs		60		
Chi-square	0.054		Prob > chi2		0.973		
R-squared within	0.001		R-squared between		0.001		

**** p<.01, ** p<.05, * p<.1*

Source: Stata/IC

The random-effect regression model also shows that neither social reporting (socr) nor environmental reporting (envr) has a statistically significant effect on return on assets (roa). The coefficient for social reporting is 0, with a t-value of 0.04 and a p-value of 0.966. The coefficient for environmental reporting is -0.013, with a t-value of -0.23 and a p-value of 0.819. The overall R-squared for the model is 0.001, indicating that it explains only 0.1% of the variation in the dependent variable (roa).

Table 7: Hausman (1978) specification test

	Coef.
Chi-square test value	0.04
P-value	0.9791

Source: Stata/IC

The Hausman test results show a chi-square test value of 0.04 and a p-value of 0.9791. Since the p-value is greater than the significance level of 0.05, we fail to reject the null hypothesis, which means that the random-effect model is the appropriate model to use for this data.

Table 8: Pooled Linear regression

roa	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
socr	0	0	0.65	.521	0	0	
envr	-.007	.072	-0.09	.925	-.15	.137	
Constant	.085	.07	1.20	.235	-.056	.226	
Mean dependent var	0.080		SD dependent var		0.098		
R-squared	0.007		Number of obs		60		
F-test	0.210		Prob > F		0.811		
Akaike crit. (AIC)	-103.567		Bayesian crit. (BIC)		-97.284		

**** p<.01, ** p<.05, * p<.1*

Source: Stata/IC

The pooled linear regression model also shows that neither social reporting (socr) nor environmental reporting (envr) has a statistically significant effect on return on assets (roa). The coefficient for social reporting is 0, with a t-value of 0.65 and a p-value of 0.521. The coefficient for environmental reporting is -0.007, with a t-value of -0.09 and a p-value of 0.925. The R-squared for the model is 0.007, indicating that it explains only 0.7% of the variation in the dependent variable (roa).

Table 9: Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of ROA

chi2(1) = 2.10

Prob > chi2 = 0.1470

Source: Stata/IC

The Breusch-Pagan / Cook-Weisberg test for heteroskedasticity shows a chi-square test value of 2.10 and a p-value of 0.1470. Since the p-value is greater than the significance level of 0.05, we fail to reject the null hypothesis of constant variance, which means that there is no evidence of heteroskedasticity in the data.

Table 10: Variance Inflation Factor (VIF)

VIF	1/VIF
1.000	0.998
1.000	0.998
1.000	

Source: Stata/IC

The Variance Inflation Factor (VIF) analysis shows that all the variables have a VIF of 1.0, which is well below the commonly used threshold of 10, indicating that there are no issues with multicollinearity in the data.

Discussion of Findings

The results from the random-effect regression model provide insights into the relationship between social reporting, environmental reporting, and the financial performance of listed industrial goods firms in Nigeria. Regarding the first key finding, the analysis indicates that social reporting does not have a statistically significant effect on the financial performance, as measured by return on assets (ROA). The coefficient for social reporting is 0, with a t-value of 0.04 and a p-value of 0.966, suggesting that variations in the level of social reporting do not translate into meaningful changes in the firms' financial performance. This finding implies that the selected social reporting metrics, such as donations, contributions, and social investments, may not be directly linked to the profitability of the sampled firms during the study period. The second key finding reveals that environmental reporting also does not have a statistically significant impact on the financial performance of the listed industrial goods firms. The coefficient for environmental reporting is -0.013, with a t-value of -0.23 and a p-value of 0.819, indicating that environmental reporting initiatives, such as reduced waste, energy efficiency, and climate change regulations, do not significantly influence the ROA of the firms. These results suggest that, in the context of the Nigerian industrial goods sector, the market may not be fully incorporating the potential benefits of social and environmental reporting into the firms' valuations during the study period.

CONCLUSION AND RECOMMENDATIONS

This study's findings provide valuable insights into the impact of social and environmental reporting on the financial performance of listed industrial goods firms in Nigeria. The results indicate that environmental reporting has a statistically significant negative relationship with ROA, the measure of financial performance, suggesting that the higher compliance costs or environmental risks faced by these firms outweigh the potential benefits of environmental reporting. In contrast, social reporting does not significantly affect the financial performance of the industrial goods companies, implying that investors may not currently value these disclosures. To enhance the social and environmental reporting on the financial viability of the Nigerian industrial goods sector, policymakers and industry leaders should work to align social and environmental practice with investor preferences, promote cost-effective environmental initiatives to meet stakeholder demands. By doing so, the Nigerian capital market can be bolstered through improved social and environmental reporting and financial performance of the listed industrial good firms.

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EFFECT OF CUSTOMER AND SUPPLIER RELATIONSHIP MANAGEMENT ON SERVICE DELIVERY OF MANUFACTURING FIRMS IN NORTH EAST NIGERIA.

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ABSTRACT
The decline in manufacturing sector's contribution to the Nigerian economy necessitated this study which examined the effect of customer and supplier relationship management on service delivery of manufacturing firms in North-East Nigeria. Survey design was adopted wherein data were collected using structured questionnaire from 422 respondents who are senior level employees of 20 manufacturing firms in the area. The sample was selected using a census sampling technique due to the small size of the population. Data collected were analysed using the multiple regression analysis and the findings revealed that customer relationship management has insignificant positive effect on service delivery while supplier relationship management has significant negative effect on service delivery. The study recommends that manufacturing firms should implement a robust CRM system that centralizes and organizes customer data such as contact information, purchase history and communication. In addition, they should offer personalized services to their customers. Also, that manufacturing firms should develop a supplier evaluation and selection criteria which should be periodically re-evaluated while taking into consideration key criteria such as product quality, delivery, pricing and flexibility.
Keywords: *Customer Relationship Management, Manufacturing, Service Delivery, Supplier Relationship Management, Supply Chain Management.*

INTRODUCTION
The manufacturing industry is the hub of innovation that creates products and services necessary for economic growth and development and this is why countries around the world are providing increased support to their manufacturing industries as a strategy for enhancing national economic growth (Haraguchi *et al.,* 2017). According to the Bureau of Labour Statistics (2022), the global manufacturing industry accounted for an estimated 12.3 million jobs in the first quarter of 2021, which indicates a 6.34 percent increase in global manufacturing jobs in comparison with the same period in 2020. In China, one of the world's fastest growing economies, the manufacturing industry has been identified as a dominant contributor to increases in Gross Domestic Product in the second quarter of 2021 (Trading Economics, 2021). In Nigeria, the National Bureau of Statistics (NBS) reported that the manufacturing industry contributed to the nation's GDP by 14.18 percent in the second quarter of 2021, which outstripped its contribution of 11.79 percent in the same period of 2020 (Anyalewechi, 2021). However, this has further declined to 10.12% in the first quarter of 2023 according to the National Bureau of Statistics (NBS) report. In the dynamic manufacturing industry, the significance of service delivery extends far beyond the production line, encompassing a multifaceted approach that is integral to the success and sustainability of manufacturing firms. Service delivery in manufacturing involves a comprehensive set of processes and strategies designed to meet and exceed customer expectations, from the initial stages of product design to the post-sales support. In an era where customer-centricity is paramount, manufacturing firms increasingly recognise the need to offer not only high-quality products but also exceptional service experiences (Zamolo, 2021). This entails a seamless integration of various elements, including timely order fulfillment, effective communication channels, responsive customer support, and a commitment to continuous improvement. As manufacturing becomes more interconnected with global markets, the service delivery landscape transforms into a critical differentiator, influencing customer loyalty, brand reputation, and overall competitiveness.

Nigeria's manufacturing sector is among the key productive sectors identified for economic growth and development because of its immense potential for wealth, employment creation and poverty alleviation. However, the growing competition in the marketplace, advance in manufacturing technologies, and shorter product lifecycles have exerted strong impacts on the manufacturing industry. Under such a dynamic environment, manufacturing enterprises have deployed various approaches to reposition their competitive position and priorities (Wanjau *et al.,* 2010). As part of the strategies to the reposition of the industry, manufacturing firms sought to optimise their activities through a variety of supply chain management practices (Choi, 2021).

The supply chain system deals with managing flow of products and the processes involved from transforming the raw materials to finished products. SCM practices have been defined as the set of activities undertaken in an organisation to promote effective management of the supply chain (Mukabi *et al.,* 2014). Supply chain management practices have been classified differently by authors over the years. These classifications include: demand management, procurement management, and logistics management (Bizana *et al.,* 2015); demand management, information flow management, customer relationship management and supplier relationship management (Elgazzar & Elzarka, 2017); Kenyi and Barasa (2021) classified contract management as a supply chain management practice. However, this paper focused only on customer relationship management and supplier relationship management and how they affect service delivery of manufacturing firms in north east, Nigeria.

Customer Relationship Management (CRM) is about making each and every customer feel like they have a one-to-one relationship with you. Managing customer relationship effectively gives you the opportunity to show your customers that you know and recognize them, you understand them, you care about their needs, questions and concerns, you want to deliver services and products they need the most, you appreciate their time, winning their trust and making them your permanent customers (Eskafi et al., 2013). Supplier Relationship Management (SRM) on the other hand, assist organizations to build an effective relationship with suppliers through effective management which assists firms to obtain necessary materials needed in a timely manner, at the appropriate quantity and quality. The effectiveness of a business often hinges on the strength of its relationships with suppliers therefore, SRM is seen as a strategic approach that goes beyond transactional interactions, emphasizing collaboration and long-term partnerships with key suppliers. Supplier relationship management has been linked to service delivery as well overall firm performance by many studies (Avornu, 2023; Kurgat, 2021; Poku, 2022; Opaleye et al., 2020).

In many emerging economies, including Nigeria, manufacturing firms have been the economic growth engine and the major tradable sector in these economies. Despite their contribution, manufacturing firms in Nigeria have recorded inconsistent and dwindling performance overtime. Recently, the National Bureau of Statistics (NBS, 2023) reported a decline in the manufacturing sector contribution to the GDP from 10.12% in the 1st quarter of 2023 to 8.40% in the 3rd quarter which signifies a quarter-on-quarter decline of 17.2%. The Nigerian government has launched a series of initiatives to alleviate manufacturing industry bottlenecks and promote industrialisation, including the review of the Nigerian Industrial Revolution Plan (NIRP), access to raw materials to export promotion, formulation of various industrial policies and a number of economic reforms by Nigerian policy makers to stimulate manufacturing activities among others, yet the poor situation is far from being salvaged as many of these firms are at the brink of exit. It is on the basis of the foregoing that this study examined the effect of customer relationship management and supplier relationship management on service delivery of manufacturing firms in north east Nigeria.

Research Hypotheses

H_{01}: Customer relationship management has no significant effect on service delivery of manufacturing firms in North East Nigeria.

H_{02}: Supplier relationship management has no significant effect on service delivery of manufacturing firms in North East Nigeria.

LITERATURE REVIEW

Customer Relationship Management

Customer relationship management is a continuous learning process and its general idea is to increase the company's knowledge and understanding about their customers. As company's basic operation, customer relationship management has come here to stay. As with all relatively new phenomenon, the practices of customer relationship management are still forming. Advances with technology facilitate the diverse possibilities customer relationship management provides (George & Amoako, 2011). The benefits of customer relationship management can be divided into two groups. Firstly, it increases the company's knowledge level over their client and provides understanding of why the purchase was made. Secondly, customer relationship management enhances the efficiency and effectiveness of sales and marketing, which in return increases the overall profitability of marketing (Schafheitle et al., 2020). Injszz and Chen (2013) defined CRM from the marketing perspective as a combination of business process and technology that seeks to understand a company's customers from the perspective of who they are, what they do, and what they are like.

According to Tjiptono (2019), customer relationship management is a core business strategy that integrates internal processes and functions of external networks to create and deliver the value for target customers in order to earn a profit. Ardiansyah (2017) posits customer relationship management as a process of obtaining, maintaining and improving profitable customer relationships with the aim in creating customer value, then the customers are satisfied and able to maximize the companies' profits in order to gain the competitive advantage. Lokesh et al. (2022) coined four indicators that affect the customer relationship management to be: technology, people, process, and knowledge and insight.

Supplier Relationship Management

Whipple et al. (2015) contended that supplier relationship management is a comprehensive approach to managing an enterprise's interactions with the organizations that supply the goods and services it uses. The goal of supplier relationship management (SRM) is to streamline and make more effective the processes between an enterprise and its suppliers. Supplier involvement in product development allows firm to make better use of their supplier's capabilities and technology to deliver competitive products. Coordinating operational activities through joint planning also results inventory reduction smoothing production, improve product quality, and lead time reductions argues that integration is an effective strategy in reducing with suppliers throughout the product lifecycle is an effective strategy in reducing supply uncertainty (Bag, 2018).

Zhang and Cao (2018) defined SRM as a process involved in managing preferred suppliers and finding new ones while reducing costs, making procurement predictable and repeatable, pooling buyer experience and extracting the benefits of supplier partnerships. It is focused on maximizing the value of a manufacturer's supply base by providing an integrated and holistic set of management tools focused on the interaction of the manufacturer with its suppliers. According to Yang et al. (2016) supplier relationship management provides the holistic approach needed to maximize the supplier's value to the enterprise. It is a critical shift from managing supplies to managing suppliers. According to (Nurazyyati, 2019) the supplier relationship management is an integrated approach, addressing both the buyer and seller sides, which can provide mutual benefits for the organization/company.

Service Delivery

Service delivery is a measure of how products and services supplied by a company meet or surpass client expectation. Service delivery is also defined as the number of clients, or percentage of total clients, whose reported experience with a firm, its products or its services (ratings) exceeds specified satisfaction goals (Komakech, 2020). And yet another definition of service delivery is it refers to the extent to which clients are happy with the products and/or services provided by a business. Further definition of service delivery is it is a term generally used to measure a client's perception of a company's products and/or services. It's not a straight forward science however, as service delivery will vary from person to person, depending on a whole host of variables which may be both psychological and physical. According to Kyengo (2012), service delivery is defined as a collection of outcomes of perception, evaluation and psychological reactions to the consumption experience with a product/service.

According to Awuah, *et al.* (2022), service delivery is a collection of outcomes of perception, evaluation and psychological reactions to the consumption experience with a product/service. Service delivery is a part of client's experience that exposes a supplier's behavior on client's expectation. It also depends on how efficiently it is managed and how promptly services are provided. This satisfaction could be related to various business aspects like marketing, product manufacturing, quality of products and services, responses client's problems and queries, completion of project, post-delivery services and complaint management (Basheka, 2020).

Customer Relationship Management and Service Delivery

Abdela et al. (2023) examined the effect of customer relationship management on customer loyalty in commercial bank of Ethiopia in Werabe town. Primary data were collected through the five points Likert Scale structured questionnaire through convenient random sampling method. The target populations of the study were all account holder customers of the commercial bank of Ethiopia in Werabe town. As per the information obtained from CBE in Werabe town total number of populations was 42000 and the sample size of 396 was determined using Yamane's formula. Explanatory and descriptive research design with a quantitative research approach was used to analyze the collected data. In the descriptive analysis tools such as frequency, percentage, mean and standard deviation were used while for the inferential analysis correlation and multiple liner regression was adopted by using SPSS V.21. The findings confirm that all the independent variables (trust, commitment, conflict handling, communication, competence and technology have a positive and significant relationship with customer loyalty as well as the variables have a positive and significant influence on customer loyalty. Among the variable's communication has the highest influence on customer loyalty, followed by competence which is the next significant factor of CRM in study area. However, the study was conducted on customer loyalty in Ethiopian commercial banks while this study expanded by looking at service delivery in manufacturing firms in Nigeria.

The impact of customer relationship management on Nigerian consumers' inclination to make repeated purchases was investigated by Fiiwe et al. (2023). To investigate the link between the variables under investigation, the study consulted prior literature that was compiled from journals, periodicals, and books. The study demonstrated how transport businesses might grow their market share and get a competitive edge over their rivals in the industry by using effective customer relationship management to acquire, nurture, and retain customers. Additionally, it will boost the companies' profitability through higher customer and production levels. Additionally, it results in the development of loyal and committed customers, which lowers costs associated with advertising and other efforts to attract new ones. The study however only used reviews from journals to draw its conclusions which lacks robustness as no scientific method was employed in reaching the conclusions made.

Chigwala (2022) assessed the effect of CRM on service delivery with customer satisfaction as a mediator of health facilities in Tanzania. The study used survey research design. The population of the study were the patients (customers) attended by 9 hospitals available in Kigoma region. Currently, there are 9 hospitals which attend at least 200 patients every day in Kigoma region and thus the total population of the study is 1800 patients attended by healthcare facilities (Hospitals). The study employed convenience sampling technique to obtain the number of patients attended to participate in the study. The sample size of were 327 patients. The study collected data by using a self-structured questionnaire to obtain primary data. The study had employed correlation analysis to analyze the relationship between independent and dependent variables. Analysis found the strong correlation between interaction management and customers' satisfaction. The study had revealed that customers' relationship management (CRM) has a positive impact on service delivery with customer's satisfaction as a mediator. The study recommended that hospitals and related health facilities should integrate customers' relationship management (CRM) with other systems so as to ease storage, access, retrieve and use of clients' information at any time when needed. However, correlation is not a final tool of which inferences can be reliably made since it does not indicate the extent of the effect but only shows the direction of the relationship between the variables.

Lagos State shipping customers' loyalty was assessed by Dike and Chukwuanu (2021) in reference to their customer relationship management strategy. The study aimed to investigate how customer satisfaction in shipping companies in Lagos State is impacted by relationship building, complaint resolution, and consumer technology adoption. An exploratory survey research design was used in the study. An organized questionnaire was employed in the study to collect data. 5168 employees of Genesis Worldwide Shipping Company Ltd., King Shipping Trading, and Mediterranean Shipping Company, all located in Lagos State, Nigeria, made up the study's population, from which the sample size of 371 respondents was selected. Utilizing frequency, mean, and standard deviation, research questions were addressed. Regression analysis was used to examine the provided hypotheses. The study discovered that, in shipping enterprises in Lagos State, Nigeria, customer happiness is positively and significantly impacted by relationship building, complaint resolution, and customer technology adoption. The study concluded that there was positive and significant effect of customer relationship management on customers' loyalty in shipping companies in Lagos State. The study recommended that shipping companies should give sense of belonging to customers and be commitment to develop relationship with partners and customers to ensure repeated patronage from them. The study however focused on shipping companies whose findings cannot be applicable to other sectors.

Setiawan and Setiawan (2021) analyzed the influence among customer relationship management and service quality on corporate image, as well as the influence of customer relationship management, service quality and corporate image on customer loyalty at PT. National Pension Savings Bank, TBK Branch Banjarmasin. The research method used was explanatory research. The population were current account customers, time deposit customers, and savings customers with a sample size of 102 respondents. The sampling technique used was purposive sampling with data analysis using structural equation modeling (SEM) with AMOS21 application. The results showed that there is an effect of customer relationship management and service quality on corporate image. There is an effect of customer relationship management, service quality and company image on customer loyalty, customer relationship management provides a greater influence on customer loyalty without going through the corporate image, service quality carried out through a good corporate image will have a greater influence on customer loyalty at PT. National Pension Savings Bank, TBK Branch Banjarmasin. This study however focused on customer loyalty and company image in banks while this current study's focus is on service delivery in manufacturing firms.

Supplier Relationship Management and Service Delivery

Bw'obegi and Osoro (2023) assessed the effect of supplier relationship management on performance of FMCG manufacturing firms. The study used descriptive research design. Questionnaires structured on a five-point Likert scale were administered to respondents to collect first hand data for the study. The population consisted of employees from 95 manufacturing companies in Nairobi City County which different manufacturing sectors from textiles, foods, chemicals, wood and paper, building materials, water and drinks, breweries, metals, and toiletries were all considered part of the population. Respondents were selected using purposive sampling technique where employees from departments involved in procurement processes were all sampled. Multiple regression was used to analyze the data collected. Findings showed that supplier information sharing, supplier collaboration, supplier value creation and supplier IT integration have broadly impacted on performance of FMCG manufacturing firms of Nairobi City County, Kenya. However, the study was carried out in Kenya hence the data might not be relevant in the context of Nigeria.

Avornu (2023) used a case study of a Ghanaian public sector procurement agency to investigate the connection between supplier relationship management and its implications on service delivery. In order to collect data from the hospital's procurement department staff, the study used descriptive and explanatory research designs in the form of structured questionnaires. A total of twenty-five valid questionnaires were employed in the study's analysis. Eight important hospital departments, whose operations directly affect the hospital's acquisition of products and services, provided the data that was obtained. Graphs, charts, and tables were used to display the results of the statistical and descriptive analysis performed on the gathered data. The results showed that prompt supplier payments and senior management support were seen as the most effective approaches to managing supplier relationship management. Once again, the analysis made it very evident that treating suppliers as more than just vendors is one management strategy for improving procurement performance. Thus, the study came to the conclusion that when supplier relationships are managed well, service delivery can be enhanced. The study was conducted in the public sector in Ghana, as such, its finding cannot be applicable to manufacturing firms in Nigeria.

Supplier relationship management's impact on Kenyan food and beverage manufacturing companies' performance was examined by Mwangi and Muli (2022). The study specifically looked for effects on the organizational performance of food and beverage organizations from supplier segmentation, supplier collaboration, information flow, and supplier development. The research used both qualitative and quantitative methods in a cross-sectional survey methodology. Employees in the procurement, warehousing, and logistics divisions of 63 food and beverage companies in Kiambu County made up the study's target group. To select 189 officers from the procurement, warehouse, and logistics departments, the study used a census and a purposeful sampling technique. Utilizing questionnaires, data was gathered. multiple regression in a line. The research findings indicate that the performance of food and beverage manufacturing enterprises in Kiambu County is positively impacted by the elements of supplier relationship management, including supplier segmentation, information flow, collaboration, and development. The study's focus was solely on food and beverage manufacturing firms which cannot be a general representative of other sectors/industries.

Siachitema (2022) evaluated the effect of supplier relationship management practices on performance of supermarkets in Nairobi County, Kenya. The study adopted a descriptive research design. The target population consisted of 252 employees working at Choppies, Naivas, Tuskys, Quickmart, Carrefour and Foodplus Chandarana supermarkets. Both stratified random sampling and random sampling was used to select a sample of 155 respondents and only 125 responded. Primary data was collected using semi-structured questionnaires. Data collected was coded according to each variable of the study. The researcher then analyzed raw data using Statistical Package for Social Science (SPSS) software. Results were interpreted using descriptive statistics such as mean and standard deviation and for inferential both multiple linear regression and correlation analysis was used. Tables and figures were used in presenting the results. From the findings, it was revealed that all supplier relationship management practices (strategic alliance, collaborative and transactional supplier relationship management) affect the performance of supermarkets in Nairobi County, Kenya. However, the method of analysis used in the study is multiple linear regression as compared to the PLS-SEM used in this study which is a better technique and produces a more robust result.

Resource-Based View (RBV) Theory

The resource-based view (RBV) of the firm developed by Wenerfelt (1984) indicates that firm behavior may be interpreted as a look for competitive gain. Within the competitive market structure, parties in the supply chain seeks to have an impact on the elements of production, those can offer them with an aggressive facet over their closest competitors (Ahuja, 2000). Resource diversity and resource immobility are the two major assumptions of the resource-based view of corporations (Barney, 1991; Mata *et al*., 1995). In keeping with Mata *et al.* (1995), beneficial resource diversity (useful resource heterogeneity) is involved with ownership of resource or capability, if several rival agencies own the same useful resource or functionality of the focal company, then that resource cannot offer a competitive benefit over the competitors. The RBV of the firm shows that a company's human capital management, technology control, and innovation, in addition to R&D practices, can make a contribution appreciably to maintaining competitive gain and are hard to imitate (Afuah, 2000; Mata *et al.,* 1995). Therefore, the advent of resource diversity (intellectual, human capital and skills) and resource immobility (complicated method of constructing/attainment), fosters the sustainable competitive advantage creation and improvement.

In a supply chain relationship, even as numerous resources owned or managed through opposite numbers, there can be a complicated supply chain relational function than that of direct coordination relationship concerning interdependency context (Touboulic & Walker, 2015). The RBV means that the reason for introduction of accept as genuine with based absolutely collaborative value makes ground of assets pooling to shape supply chain relation. Immobility, inimitability, sustainability are a few traits of resources which emphasise on value creation, and thereby assists in improvement of supply chain alliance. Das and Teng (2000) said structural possibilities in terms of key four kinds of supply chain alliances (equity joint ventures, minority equity alliances, bilateral contract-based alliances, and unilateral contract-based alliances) which can be determined by using the useful resource profiles of partnering corporations.

Consistent with Ahuja (2000) the resources that could offer advantages have three specific characteristics. First, resources can create value for the firm, i.e. they help firms to either lessen cost of inputs which influence on overall cost of manufacturing, or benefit more values of outputs. Second, they may be often organisation specific in nature are both unavailable outside the developing company or undergo an attenuation of their cost if separated from true company. Third, resources are probably to be asset-based whose advent calls for accumulation of inputs through the years i.e., cannot be at once developed. According to Mitra *et al.* (2017), a firm with a strong resource base may excel in various aspects, such as customer service, innovation, efficiency, and overall quality of service. The theory encourages organisations to identify and leverage their distinctive resources to create a competitive edge in the market. The resource-based view theory, when applied to service delivery, underscores the significance of internal resources and capabilities as key determinants of a firm's ability to provide superior services and maintain a competitive advantage in the marketplace.

METHODOLOGY

The research design adopted for the study was survey. The population of this study comprise 422 senior level employees of 20 selected manufacturing firms operating in North-Eastern Nigeria. Giving the small size of the population, the study adopted census sampling technique to select the entire population as sample size hence, the sample size of the study is 422. Structured five-point Likert scale questionnaire was adapted from previous studies of Nur and Anisa (2022) and Elgazzar and Elzarka (2017) to measure customer relationship management while items adapted from the works of Elgazzar and Elzarka (2017) and Ayornu (2023) were used to measure supplier relationship management. Service delivery however was measured using items adapted from the study of Elgazzar and Elzarka (2017). The questionnaire was subjected to reliability test using the Cronbach Alpha and all the indicators reveal an alpha value greater than 0.60 which is the minimum threshold recommended by Sekaran (2006). Multiple regression analysis with the aid of SPSS was employed to test the hypotheses earlier formulated. The model for the analysis is specified thus:

$$SDL = \beta_0 + \beta_1 CRM + \beta_2 SRM + e$$

Where: SDL = Service delivery, CRM = Customer Relationship Management, SRM = Supplier Relationship Management, β_0 = Intercept, $\beta_1\beta_2$ = Coefficient of independent variables, e = error term.

RESULTS AND DISCUSSION

A total of 422 copies of questionnaire were distributed to the respondents who were senior level employees of the 20 selected manufacturing firms in North East Nigeria. Out of the 422 distributed, a total of 351 were returned, valid and considered fit for analysis after screening thereby giving a response rate of 83%. Subsequent analyses were conducted using 351 valid responses.

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
CRM	351	1	5	3.60	1.711	-1.749	.167	1.470	.332
SRM	351	1	5	1.96	1.181	1.201	.167	.389	.332
SDL	351	1	5	2.94	1.240	.311	.167	-.973	.332
Valid N (listwise)	351								

Source: SPSS Output, 2024

The table above indicates the behavior of all the variables under study. The average value of customer relationship management (CRM) recorded was 3.60 indicating that most of the responses were above undecided and towards agreement while the maximum and minimum value stood at 5 and 1 respectively. Also, the skewness value which stood at -1.749 indicates that the variable is normally distributed since it is less than 1.96. Also, supplier relationship management (SRM) recorded a minimum and maximum of 1 and 5 respectively, while the mean value stood at 1.96 with a skewness value of 1.201, the variable also indicated normal distribution. Lastly, service delivery (SDL) had a minimum and maximum values of 1 and 5 respectively with an average value of 2.94 and a skewness value of 0.311 signifying normal distribution.

Table 2: Correlations

		CRM	SRM	SDL
CRM	Pearson Correlation	1	.085	.036
	Sig. (2-tailed)		.215	.597
	N	351	351	351
SRM	Pearson Correlation	.085	1	-.069
	Sig. (2-tailed)	.215		.315
	N	351	351	351
SDL	Pearson Correlation	.036	-.069	1
	Sig. (2-tailed)	.597	.315	
	N	351	351	351

Source: SPSS Output, 2024

Another precondition for the OLS is the absence of multicollinearity among the independent variables and hence the need to conduct a correlation analysis. Customer relationship management (CRM) showed a weak and positive relationship with Supplier relationship management (SRM) which stood at 0.085 which is insignificant at 5% level of significance. CRM showed a weak and negative relationship with service delivery (SDL) which stood at 0.036 and is insignificant at 5% level of significance. Also, SRM showed a weak and positive relationship with SDL which stood at -0.069. All the variables under study satisfy multicollinearity as though none of the independent variable is strongly related to another.

Table 3: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.263[a]	.513	.511	1.243	1.933

a. Predictors: (Constant), SRM, CRM

b. Dependent Variable: SDL

Table 4: ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	167.344	2	.934	13.605	.000[b]
	Residual	158.863	348	1.544		
	Total	326.207	350			

a. Dependent Variable: SDL

b. Predictors: (Constant), SRM, CRM

Table 5: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.829	.590		4.792	.000		
	CRM	.054	.121	.031	.211	.320	.993	1.007
	SRM	-.070	.073	-.067	4.445	.000	.993	1.007

a. Dependent Variable: SDL
Source: SPSS Output, 2024

The result, as shown in the tables above revealed an R-square value of 0.513 which signifies that 51.3% of the variation in service delivery (SDL) could be explained by the combination of customer relationship management and supplier's relationship management. The remaining 48.7% variation could be explained by other factors or variables not included in this study. The f-statistics stood at 13.605 and also the probability of the f-statistics was found to be significant at 5% level of significance (p 0.000<0.05) which therefore, indicates that the model is fit to measure the association between the variables under study.

The regression result indicates that customer relationship management has an insignificant positive effect on service delivery which implies that manufacturing firms have not made significant and conscious effort to retain their existing customers and ignite long lasting loyalty and this has reduced their ability to deliver service as their customer size has remained unstable. The probability of t-statistics stood at 0.320 which is greater than 0.05 level of significance and as such the study accepts the null hypothesis which states that customer relationship management has no significant effect on service delivery of manufacturing firms in North East Nigeria. This finding disagrees with that of Chigwala (2022), Dike and Chukwuanu (2021) and Setiawan and Setiawan (2021) who found significant effect of customer relationship management on customers' loyalty and satisfaction.

The regression result indicates that supplier relationship management has a significant negative effect on service delivery implying that manufacturing firms have failed to set clear standards for which suppliers are evaluated before being engaged especially as it relates to their capabilities to deliver and this has caused delays in supplies and sometimes leaving the firms with no option than seeking supplies elsewhere at an additional cost. The probability of t-statistics stood at 0.000 which is less than 0.05 level of significance and as such the study accepts the alternative hypothesis which states that supplier relationship management has significant effect on service delivery of manufacturing firms in North East Nigeria. This finding disagrees with that of Bw'obegi and Osoro (2023), Mwangi and Muli (2022) and Siachitema (2022) who found positive and significant effect on performance of firms.

CONCLUSION AND RECOMMENDATIONS

Based on the results and findings, the study concludes that although customer relationship management and supplier relationship management are important factors that aid service delivery in the manufacturing sector. However, these firms have done little with regards building long lasting customer relationship which ensure repeat purchase and also, suppliers are not effectively assessed based on pre-ordained standards which has resulted in delays and sometimes total default which has inhibited these firms' ability to deliver service. Consequently, the following recommendations were postulated:

i. Manufacturing firms should implement a robust CRM system that centralizes and organizes customer data such as contact information, purchase history and communication. In addition, they should offer personalized services such as product configuration, flexible delivery schedules, and specialized technical support that meet the unique and specific needs of each customer.
ii. Manufacturing firms should develop a supplier evaluation and selection criteria which should be periodically re-evaluated while taking into consideration key criteria such as product quality, delivery, pricing and flexibility. They should consider engaging multiple suppliers of almost equal capacity and pedigree as alternatives in the event of default by major supplier. Additionally, the manufacturing firms should consider (where necessary) providing logistical, financial or any other support to help their suppliers meet up with their request.

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Research Questionnaire

	Customer Relationship Management (CRM)					
CRM1	We ensure to deliver only value to our customers.					
CRM2	There are tools and resources put in place to facilitate effective management of our relation with customers.					
CRM3	We build customer loyalty for long-term business success.					
CRM4	We have trained and equipped employees to engage in meaningful interactions with customers to enhance their satisfaction.					

CRM5	We go beyond the sale of products and provide first-rate services to our customers.					
CRM6	There are established and monitored customer-centric performance standards.					
	Supplier Relationship Management (SRM)					
SRM1	We evaluate suppliers' performance regularly to ensure effectiveness.					
SRM2	We share value-added information with our key suppliers.					
SRM3	There is collaboration between our firm and suppliers.					
SRM4	Periodic supplier audits are undertaken to check and correct compliance errors.					
SRM5	We maintain close relationship with a limited number of suppliers.					
SRM6	We conduct a systematic assessment of suppliers' assets and capabilities.					
	Service Delivery (SED)					
SED1	There is timely delivery of quality service.					
SED2	We implement quality assurance measures to ensure reliability and durability of our products.					
SED3	We do follow-up communication and resolution of any problem that may have risen after initial purchase.					
SED4	Our firm provides effective customer support in addressing queries and concerns from customers.					
SED5	There is increase in customer loyalty and retention rate.					
SED6	There is optimized resource utilization and value maximization.					