



The leadership-motivation nexus: Unlocking Employee productivity in manufacturing firms in Delta and Edo States, Nigeria

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DOI: <https://doi.org/10.66856/ijcmr.2026.12.2.12173>

Abstract

This study examines leadership styles, motivational factors, and employee productivity in manufacturing firms in Delta and Edo States, Nigeria. Specifically, the study investigated the effect of autocratic leadership style, democratic leadership style, intrinsic motivation, and extrinsic motivation on employee productivity. Four research questions were posed and four hypotheses were formulated to guide the study. A descriptive survey research design was adopted, with a population of 3,280 employees drawn from selected manufacturing firms in the two states. A sample size of 357 respondents was determined using Yamane's sampling technique; 293 copies were retrieved and analyzed. Data analysis involved descriptive and inferential statistics, including mean, standard deviation, and multiple regression analysis. Findings revealed that while autocratic leadership style did not significantly affect employee productivity, democratic leadership style had a positive and significant effect ($p < 0.05 = 0.0415$). Both intrinsic and extrinsic motivation significantly influenced employee productivity ($p < 0.05 = 0.0000$). Intrinsic motivation exhibited a stronger effect on productivity compared to extrinsic motivation, emphasizing the importance of internal satisfaction derived from challenging tasks, skill utilization, and recognition of effort. The regression analysis demonstrated a high explanatory power, with an R^2 value of 0.9936, indicating that leadership styles and motivational factors collectively accounted for 99.36% of the variation in employee productivity. The study concludes that fostering participatory leadership and enhancing both intrinsic and extrinsic motivation are essential for improving employee productivity in manufacturing firms. Recommendations include adopting democratic leadership practices, recognizing employee contributions, providing competitive monetary rewards, and implementing comprehensive leadership training programs.

Keywords: Autocratic leadership, democratic leadership, intrinsic motivation, extrinsic motivation, employee productivity, manufacturing firms, Nigeria

Introduction

Leadership and employee motivation are pivotal in determining the success of organizations, particularly in the manufacturing sector, where productivity directly impacts organizational performance. Leadership styles, such as autocratic and democratic, significantly influence how employees perceive their roles and responsibilities. Autocratic leaders typically focus on strict control and decision-making without employee input, whereas democratic leaders encourage collaboration and employee involvement (Zainal *et al.*, 2022) ^[41]. These contrasting approaches have varying implications for employee motivation, engagement, and overall productivity, making leadership styles a critical area of research in organizational management.

Motivation, whether intrinsic or extrinsic, plays a central role in shaping employee productivity. Intrinsic motivation arises from internal factors such as personal satisfaction, career growth, and the desire for achievement, while extrinsic motivation is driven by external rewards like salaries, bonuses, and recognition (Deci & Ryan, 2020) ^[11]. Studies have shown that employees with higher intrinsic motivation tend to demonstrate greater creativity, persistence, and dedication to tasks (Amabile *et al.*, 2021) ^[5]. On the other hand, extrinsic motivation provides a tangible reward system that incentivizes employees to meet organizational goals, particularly in structured environments like manufacturing firms.

The manufacturing industry in Nigeria, particularly in Delta and Edo States, faces numerous challenges that affect employee productivity. These include poor leadership practices, inadequate motivation, and high levels of employee turnover (Okon & Bassey, 2021 ^[28]; Omoye, 2026 ^[4]). Leadership styles that fail to address employee needs often result in reduced morale and productivity. As such, understanding the interplay between leadership styles, motivation, and employee productivity is critical for improving organizational outcomes in these states.

Recent studies have emphasized the importance of adopting appropriate leadership styles tailored to specific organizational and employee needs (Bass & Riggio, 2020^[8]; Tom). For instance, democratic leadership has been found to foster a positive work environment and improve team performance, while autocratic leadership is often associated with quick decision-making in crisis situations (Goleman *et al.*, 2021 ^[18]; Omoye 2025 ^[29]). In the Nigerian context, motivation strategies in manufacturing firms are further complicated by socio-economic factors such as unstable economic policies, inflation, and inadequate infrastructure (Adebayo *et al.*, 2022) ^[1]. Leadership styles that incorporate effective motivational strategies have the potential to mitigate these challenges by fostering a culture of accountability, innovation, and performance.

Given the critical role of leadership and motivation in enhancing employee productivity, this study seeks to examine the relationship between autocratic and democratic

leadership styles, intrinsic and extrinsic motivation, and employee productivity in manufacturing firms in Delta and Edo States.

Statement of the Problem

The manufacturing sector in Delta and Edo States, Nigeria, faces significant challenges in achieving optimal employee productivity, largely due to ineffective leadership styles and inadequate motivational strategies. Autocratic leadership, while efficient in decision-making, often stifles creativity and reduces employee engagement, leading to high turnover rates and poor morale. Conversely, democratic leadership, though participatory, can be slow in responding to organizational challenges if not balanced with firm decision-making. Additionally, the lack of tailored motivational approaches further exacerbates these issues, as many organizations fail to address the intrinsic and extrinsic needs of employees. Intrinsic factors such as job satisfaction, recognition, and opportunities for career growth are often overlooked, while extrinsic motivators like competitive salaries and benefits are insufficiently provided due to economic constraints. This study, therefore, seeks to address these gaps by examining how autocratic and democratic leadership styles, combined with intrinsic and extrinsic motivation, impact employee productivity.

Objectives of the Study

The general objective of this study is to examine the impact of leadership styles and motivation on employee productivity in manufacturing firms in Delta and Edo States, Nigeria. The specific objectives are to:

1. Determine the relationship between autocratic leadership style and employee productivity in manufacturing firms in Delta and Edo States.
2. Assess the relationship between democratic leadership style and employee productivity in manufacturing firms in Delta and Edo States.
3. Examine the influence of intrinsic motivation on employee productivity in manufacturing firms in Delta and Edo States.
4. Evaluate the impact of extrinsic motivation on employee productivity in manufacturing firms in Delta and Edo States.

Research Questions

1. What is the relationship between autocratic leadership style and employee productivity in manufacturing firms in Delta and Edo States?
2. How does democratic leadership style affect employee productivity in manufacturing firms in Delta and Edo States?
3. To what extent does intrinsic motivation affect employee productivity in manufacturing firms in Delta and Edo States?
4. What is the effect of extrinsic motivation on employee productivity in manufacturing firms in Delta and Edo States?

Research Hypotheses

The following null hypotheses were formulated to guide the study:

H₀₁: There is no significant relationship between autocratic leadership style and employee productivity in manufacturing firms in Delta and Edo States.

H₀₂: There is no significant effect of democratic leadership style on employee productivity in manufacturing firms in Delta and Edo States.

H₀₃: Intrinsic motivation does not significantly affect employee productivity in manufacturing firms in Delta and Edo States.

H₀₄: There is no significant effect of extrinsic motivation on employee productivity in manufacturing firms in Delta and Edo States.

Review of Related Literature

1. Conceptualization of the Study

The conceptualization of this study centers on the relationship between leadership styles, motivation, and employee productivity in manufacturing firms in Delta and Edo States, Nigeria. Leadership styles, particularly autocratic and democratic, play a crucial role in shaping employee behavior, decision-making processes, and overall organizational effectiveness (Bass & Riggio, 2020) ^[8]. Autocratic leadership emphasizes centralized control and decision-making, which may lead to reduced employee autonomy and lower productivity (Goleman *et al.*, 2021) ^[10]. In contrast, democratic leadership encourages participative decision-making, fostering employee engagement and collaboration, which are often linked to higher productivity levels (Zainal *et al.*, 2022) ^[41].

Motivation, both intrinsic and extrinsic, further mediates these relationships. Intrinsic motivation, driven by personal growth, job satisfaction, and recognition, enhances employees' commitment and effort, thereby boosting productivity (Deci & Ryan, 2020) ^[11]. Meanwhile, extrinsic motivation, driven by external rewards such as salaries, bonuses, and promotions, plays a key role in incentivizing employees, especially in structured work environments like manufacturing firms (Amabile *et al.*, 2021 ^[5]; Omoye *et al.*, 2024 ^[12]). This study seeks to explore how these variables interact to influence employee productivity, aiming to provide insights into effective leadership practices and motivational strategies that enhance organizational performance.

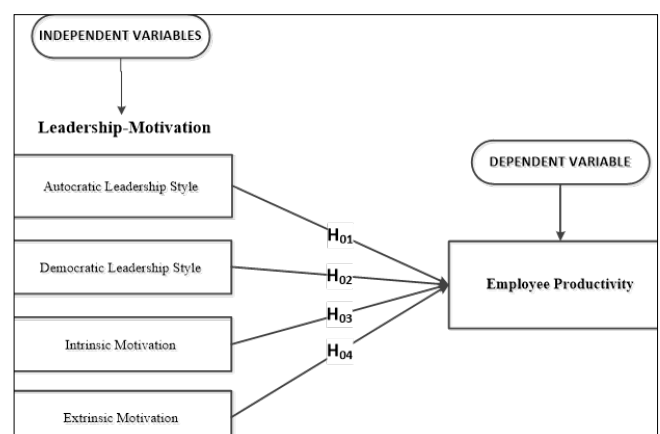


Fig 1: Conceptual Framework of Leadership Styles, Motivation and Employee Productivity in Manufacturing Firms in Delta and Edo States, Nigeria (Source: Researcher's Compilation, 2026) ^[33]

2. Concept of Autocratic Leadership

Autocratic leadership is a style characterized by centralized decision-making, strict control over subordinates, and minimal input from team members. Leaders who adopt this style prioritize authority and command, often dictating tasks

and processes without soliciting feedback or collaboration from employees. While this approach can be effective in situations requiring quick decisions or adherence to strict procedures, it often limits employee creativity and autonomy (Bass & Riggio, 2020) ^[8]. Autocratic leaders typically maintain clear hierarchies and demand high levels of compliance, which can lead to efficiency in structured environments, such as manufacturing firms. However, excessive reliance on this style may create a rigid work culture that stifles innovation and demotivates employees (Goleman *et al.*, 2021) ^[18].

The impact of autocratic leadership on employee productivity is context-dependent. In environments requiring precision and where errors carry high stakes, such as assembly lines or critical manufacturing processes, autocratic leadership can enhance productivity by providing clear directives and reducing ambiguity (Fiaz *et al.*, 2017^[14]; Eruvwe *et al.*, 2024^[12]). However, prolonged exposure to this style can lead to lower job satisfaction and higher turnover rates, as employees may feel undervalued and disengaged (Iqbal *et al.*, 2021) ^[20]. Research emphasizes the importance of balancing autocratic tendencies with elements of participative leadership to mitigate adverse effects (Amanchukwu *et al.*, 2015 ^[6]; Omoye *et al.*, 2024 ^[12]).

3. Concept of Democratic Leadership

Democratic leadership, often referred to as participative leadership, is a style in which leaders involve team members in decision-making processes, fostering collaboration and shared responsibility. This approach emphasizes open communication, trust, and mutual respect, allowing employees to contribute their ideas and insights to organizational decisions (Bass & Riggio, 2020) ^[8]. Democratic leaders facilitate discussions, encourage feedback, and value the contributions of their team, creating an environment where employees feel empowered and engaged. This leadership style is particularly effective in fostering creativity, innovation, and job satisfaction (Goleman *et al.*, 2021) ^[18].

In manufacturing firms, democratic leadership can enhance productivity by promoting teamwork and leveraging the diverse skills of employees. Research indicates that employees under democratic leaders tend to exhibit higher levels of commitment, morale, and intrinsic motivation, as they feel their contributions are acknowledged and valued (Iqbal *et al.*, 2021) ^[20]. This leadership style also fosters a sense of ownership and accountability, as employees are actively involved in shaping organizational goals and processes. However, its effectiveness depends on the leader's ability to strike a balance between inclusiveness and decisiveness (Zainal *et al.*, 2022) ^[41].

4. Concept of Intrinsic Motivation

Intrinsic motivation refers to the internal drive to perform a task or engage in an activity for the inherent satisfaction or joy it brings, rather than for external rewards. Individuals motivated intrinsically find fulfillment in the task itself, experiencing a sense of purpose, mastery, or personal growth (Deci & Ryan, 2020) ^[11]. In organizational settings, intrinsic motivation is critical for fostering innovation and commitment, as employees who are intrinsically driven often go beyond their assigned roles to contribute meaningfully to their workplace (Amabile *et al.*, 2021) ^[5]. Unlike extrinsic motivators, which can lose effectiveness

over time, intrinsic motivation tends to have a long-lasting impact, as it is deeply rooted in personal values and interests.

Research highlights the significant role of intrinsic motivation in enhancing employee productivity and satisfaction. Employees who feel autonomy in their roles and perceive their work as meaningful are more likely to remain engaged and perform at higher levels (Ryan & Deci, 2022) ^[36]. Leaders can foster intrinsic motivation by providing opportunities for skill development, aligning tasks with employees' strengths, and recognizing individual achievements (Gagne & Deci, 2021) ^[16].

5. Concept of Extrinsic Motivation

Extrinsic motivation refers to the drive to perform tasks or engage in activities to achieve external rewards or avoid negative consequences. These rewards can include financial incentives, promotions, recognition, or benefits (Deci & Ryan, 2020) ^[11]. In workplace settings, extrinsic motivators often take the form of salaries, bonuses, performance-based rewards, and career advancement opportunities. While these incentives are effective in driving short-term performance, their long-term impact on engagement and satisfaction can be limited if not paired with intrinsic motivators (Gagne & Deci, 2021^[16]; Tom *et al.*, 2025^[39]).

Research shows that extrinsic motivation can significantly influence employee behavior and productivity in structured environments such as manufacturing firms. However, excessive reliance on extrinsic motivators can lead to diminished intrinsic motivation through the so-called crowding-out effect (Frey & Jegen, 2022) ^[15]. Organizations must balance financial and non-financial incentives while creating a supportive environment that fosters intrinsic satisfaction. Coupling performance-based rewards with recognition and opportunities for professional growth ensures sustained motivation and enhanced overall employee productivity (Amabile *et al.*, 2021) ^[10].

6. Concept of Employee Productivity

Employee productivity in manufacturing firms refers to the efficiency and effectiveness with which workers convert inputs, such as time, materials, and labor, into high-quality outputs. It is a critical metric that influences organizational profitability, competitiveness, and operational sustainability. Productivity in manufacturing firms is shaped by employee skills, motivation, leadership styles, technological advancements, and the work environment (Chowdhury *et al.*, 2021) ^[34]. Effective performance management systems and clear communication of goals further contribute to aligning individual efforts with organizational objectives (Bakker & Demerouti, 2022) ^[7].

Research indicates that leadership styles significantly impact productivity by shaping employee engagement and motivation (Iqbal *et al.*, 2021^[10]; Omoye, 2026^[4]). Democratic leadership styles that encourage collaboration and employee participation can foster innovation and efficiency. Moreover, motivation — both intrinsic and extrinsic — plays a crucial role in driving productivity. Financial incentives, recognition, and professional development opportunities motivate employees to achieve higher performance levels (Nguyen *et al.*, 2021^[10]; Akpomimie *et al.*, 2026). Technological integration, streamlined processes, and a supportive organizational culture are equally vital for maintaining high productivity standards.

7. Theoretical Framework

This study is grounded in Herzberg's Two-Factor Theory of Motivation, which distinguishes between hygiene factors and motivators as key influences on employee satisfaction and performance. Hygiene factors, such as salary, working conditions, and job security, are extrinsic and prevent dissatisfaction but do not necessarily increase motivation. Conversely, motivators, such as recognition, achievement, and opportunities for personal growth, are intrinsic and drive higher levels of engagement and productivity (Herzberg, 1966) [19].

In the context of manufacturing firms, this theory implies that while addressing hygiene factors ensures a stable and conducive work environment, the presence of motivators is essential for enhancing employee productivity and commitment. Leadership styles play a pivotal role in implementing this theory: autocratic leadership may address hygiene factors by ensuring order and discipline, whereas democratic leadership fosters motivators by empowering employees and recognizing their contributions. A comprehensive approach integrating both intrinsic and extrinsic motivation can therefore lead to improved employee productivity in manufacturing firms.

8. Empirical Review

Several studies have investigated the relationship between leadership styles, motivation, and employee productivity. Iqbal *et al.* (2021) [10] conducted a study on the impact of leadership styles on employee productivity in manufacturing firms in Pakistan (n=300) and found that autocratic leadership negatively affects productivity, while democratic leadership positively influences it by promoting employee autonomy and job satisfaction. Similarly, Sharma and Kumar (2020) [37] explored the influence of leadership styles on employee performance in Indian manufacturing firms (n=250) and highlighted that democratic leadership enhances productivity through better decision-making, trust, and job satisfaction.

Gagne and Deci (2021) [16] examined the role of intrinsic motivation in employee productivity in Canadian manufacturing firms (n=500) using a mixed-method approach. They found that intrinsic motivation significantly boosts productivity by enhancing employee engagement, creativity, and job satisfaction. Amabile *et al.* (2021) [10] similarly found that intrinsic motivation fosters creativity and sustained productivity in knowledge-intensive industries in the United States. Nguyen *et al.* (2021) [25] investigated extrinsic motivation in Vietnamese manufacturing firms (n=450) and noted that while financial incentives enhance short-term productivity, their long-term impact is limited due to diminishing returns. Zainal *et al.* (2022) [41] studied 350 employees in Malaysian manufacturing firms and found that democratic leadership enhances productivity by fostering trust and empowerment, while intrinsic and extrinsic motivators play complementary roles.

9. Knowledge Gap

The knowledge gap in existing research lies in the limited exploration of how different leadership styles and types of motivation interact to influence employee productivity in manufacturing firms specifically within Delta and Edo States, Nigeria. Previous studies by Iqbal *et al.* (2021) and Sharma and Kumar (2020) [28, 37] examined leadership styles on employee productivity without exploring the Nigerian manufacturing context. Gagne and Deci (2021) and Nguyen

et al. (2021) [16] focused on motivation but did not integrate leadership style variables comprehensively. This study aims to fill this gap by examining how leadership styles and motivational factors interact to influence employee productivity in these underrepresented regions.

Research Methodology

1. Research Design

This study adopted a descriptive survey research design to investigate the relationship between leadership styles, motivation, and employee productivity in manufacturing firms in Delta and Edo States, Nigeria. The descriptive survey design was appropriate for examining relationships among variables in a natural setting without manipulating the study environment. This approach allowed for the collection of data that provided insights into the influence of autocratic and democratic leadership styles, as well as intrinsic and extrinsic motivation, on employee productivity.

2. Population of the Study

The population of the study comprised employees in selected manufacturing firms located in Delta and Edo States, Nigeria. These included administrative staff, line managers, and operational workers. According to recent industrial directories, there are approximately 3,280 employees spread across 20 selected manufacturing firms in these two states (see Appendix 1).

3. Sample Size and Sampling Technique

To determine the sample size, Taro Yamane's formula was employed with a 95% confidence level and a margin of error of 5%, yielding a sample size of 357 respondents. A multi-stage sampling technique was adopted. In the first stage, stratified sampling was used to categorize the population based on geographical location (Delta and Edo States), ensuring proportionate representation. In the second stage, proportional allocation determined the number of respondents from each state. Finally, simple random sampling was employed within each stratum to select individual respondents, ensuring randomness and minimizing the likelihood of bias.

$$n = N / (1 + N(e^2)) = 3,280 / (1 + 3,280(0.05^2)) \approx 357$$

4. Research Instrument

The primary instrument for data collection was a structured questionnaire designed based on the study's objectives. The questionnaire was divided into four sections: demographic information, leadership styles (autocratic and democratic), motivation (intrinsic and extrinsic), and employee productivity. The instrument used a five-point Likert scale to measure respondents' perceptions, ranging from "Strongly Disagree" to "Strongly Agree."

5. Validity and Reliability of the Instrument

Validity was established through expert review by academics and practitioners in organizational behavior and human resource management, who assessed the instrument for content, construct, and face validity. Reliability was determined through a pilot study involving 30 employees from a manufacturing firm not included in the sample. The internal consistency of the instrument was tested using Cronbach's alpha, with a threshold of 0.70 considered acceptable.

6. Method of Data Collection

Data collection involved administering the structured questionnaire to the selected respondents in the manufacturing firms. The researcher distributed the questionnaires in person, ensuring a high response rate. Respondents were given one week to complete the questionnaires, after which the researcher collected them for analysis. Out of 320 questionnaires administered, 293 copies were retrieved and found usable for analysis.

7. Method of Data Analysis

The collected data were analyzed using EViews 9.0 software. Descriptive statistics such as mean, standard deviation, and frequency distributions were used to summarize the demographic data. Inferential statistics, including multiple regression analysis, were employed to test the hypotheses and determine the relationship between leadership styles, motivation, and employee productivity. The results were interpreted at the $p < 0.05$ level of significance and presented in tables.

8. Model Specification

The dependent variable is Employee Productivity (EP), while the independent variables are Autocratic Leadership Style (ALS), Democratic Leadership Style (DLS), Intrinsic Motivation (IM), and Extrinsic Motivation (EM). The model is expressed as:

$$EP = f(ALS, DLS, IM, EM)$$

$$EP = \beta_0 + \beta_1ALS + \beta_2DLS + \beta_3IM + \beta_4EM + \epsilon$$

Where EP = Employee Productivity; β_0 = Intercept; β_1 – β_4 = Coefficients of independent variables; ALS = Autocratic Leadership Style; DLS = Democratic Leadership Style; IM = Intrinsic Motivation; EM = Extrinsic Motivation; ϵ = Error term.

Results and Discussion

This section presents and discusses the findings of the study. Out of the 320 questionnaires administered to employees in the selected manufacturing firms, 293 were retrieved and

found usable for analysis, representing a response rate of 91.6%.

1. Demographic Characteristics of Respondents

Table 1: Demographic Characteristics of Respondents

Characteristics	Frequency	Percentage (%)
Gender		
Male	180	61.4
Female	113	38.6
Age Group		
25–30 years	70	23.9
31–40 years	120	41.0
41–50 years	75	25.6
51 years and above	28	9.6
Educational Qualification		
Post-Primary	50	17.1
B.Sc	180	61.4
PD/MBA/M.Sc/Ph.D	63	21.5
Work Experience (Years)		
1–10 years	150	51.2
11–20 years	100	34.1
21 years and above	43	14.7
Total	293	100.0

Source: Fieldwork, 2026

The gender distribution indicates that the majority of respondents are male (61.4%), reflecting the gender dynamics typical of the manufacturing sector. The age distribution shows that the largest group falls within the 31–40 years bracket (41%), suggesting the workforce is predominantly in its prime working years. Most respondents (61.4%) possess a Bachelor's degree (B.Sc), reflecting a significant level of formal education. In terms of work experience, 51.2% have between 1–10 years, indicating a mix of relatively newer employees and those with moderate experience. These demographic characteristics have important implications for leadership styles, motivation, and productivity.

2. Research Question 1: Autocratic Leadership Style

Table 2: Mean Responses to Question Items on Autocratic Leadership Style

S/N	Question Item	SA	A	D	SD	Mean	Std	Remark
1	My supervisor insists on strict compliance with rules.	90	100	70	33	2.84	0.99	Agree
2	Decision-making is centralized by my supervisor.	85	110	60	38	2.83	0.99	Agree
3	My supervisor does not tolerate dissenting opinions.	80	90	75	48	2.69	1.04	Agree
4	Tasks are assigned with little to no input from employees.	100	110	50	33	2.95	0.98	Agree
5	My supervisor closely monitors every activity.	110	120	40	23	3.08	0.91	Agree
	Aggregate Mean and Std					2.88	0.98	Agree

Source: Fieldwork, 2026

The aggregate mean and standard deviation for autocratic leadership style were reported as 2.88 ± 0.98 , indicating general agreement among respondents that autocratic leadership practices are prevalent in their work environments. Supervisors were perceived to emphasize strict compliance with rules, centralize decision-making,

and closely monitor employee activities. The relatively low standard deviation highlights consistency in respondents' perceptions across the firms surveyed.

3. Research Question 2: Democratic Leadership Style

Table 3: Mean Responses to Question Items on Democratic Leadership Style

S/N	Question Item	SA	A	D	SD	Mean	Std	Remark
1	My supervisor encourages participation in decision-making.	120	130	25	18	3.20	0.84	Agree
2	I feel my opinions are valued by my supervisor.	103	140	35	15	3.13	0.81	Agree
3	Teamwork is emphasized in my workplace.	114	120	40	19	3.12	0.88	Agree
4	My supervisor provides clear explanations for decisions made.	90	160	40	3	3.15	0.68	Agree
5	My supervisor ensures fair treatment for all employees.	120	130	25	18	3.20	0.84	Agree
	Aggregate Mean and Std					3.16	0.81	Agree

Source: Fieldwork, 2026

The aggregate mean and standard deviation for democratic leadership style were reported as 3.16 ± 0.81 , indicating strong agreement that democratic leadership practices are present. Respondents agreed that their supervisors encourage participation in decision-making, value employee opinions, emphasize teamwork, and ensure fair treatment.

The higher mean value compared to autocratic leadership style suggests that democratic practices are perceived more positively by employees.

4. Research Question 3: Intrinsic Motivation

Table 4: Mean Responses to Question Items on Intrinsic Motivation

S/N	Question Item	SA	A	D	SD	Mean	Std	Remark
1	I derive satisfaction from achieving set goals.	120	132	25	16	3.22	0.82	Agree
2	I feel motivated to perform when my skills are utilized.	110	120	40	23	3.08	0.91	Agree
3	I enjoy learning new things to improve my performance.	100	140	35	18	3.10	0.84	Agree
4	Solving challenging tasks makes my work rewarding.	113	120	40	20	3.11	0.89	Agree
5	Recognition of effort increases my motivation to excel.	90	151	40	12	3.09	0.78	Agree
Aggregate Mean and Std						3.12	0.84	Agree

Source: Fieldwork, 2026

The aggregate mean and standard deviation for intrinsic motivation were 3.12 ± 0.84 , indicating strong agreement that intrinsic motivation significantly influences employee productivity. Respondents agreed that achieving set goals, utilizing skills, engaging in learning opportunities, solving challenging tasks, and receiving recognition for effort are

key intrinsic motivators. These findings highlight the importance of intrinsic motivators in promoting employee engagement.

5. Research Question 4: Extrinsic Motivation

Table 5: Mean Responses to Question Items on Extrinsic Motivation

S/N	Question Item	SA	A	D	SD	Mean	Std	Remark
1	Monetary incentives increase my willingness to work harder.	120	130	25	18	3.20	0.84	Agree
2	Promotions motivate me to perform at my best.	150	120	20	23	3.27	0.88	Agree
3	Job security is a significant motivator for me.	100	140	35	18	3.10	0.84	Agree
4	Benefits like healthcare and housing make me more productive.	110	130	30	23	3.12	0.88	Agree
5	Bonuses enhance my job performance.	90	140	40	23	3.01	0.87	Agree
Aggregate Mean and Std						3.14	0.86	Agree

Source: Fieldwork, 2026

The aggregate mean and standard deviation for extrinsic motivation were reported as 3.14 ± 0.86 , indicating strong agreement that extrinsic motivators significantly enhance productivity. Monetary incentives, promotions, job security, benefits such as healthcare and housing, and bonuses were all identified as essential extrinsic factors. The standard

deviation of 0.86 reflects moderate variability, indicating a relatively consistent perception among employees regarding the impact of these extrinsic motivators.

6. Employee Productivity

Table 6: Mean Responses to Question Items on Employee Productivity

S/N	Question Item	SA	A	D	SD	Mean	Std	Remark
1	I consistently meet deadlines at work.	120	130	25	18	3.20	0.84	Agree
2	I effectively manage my workload.	110	120	40	23	3.08	0.91	Agree
3	I regularly exceed performance expectations.	100	140	35	18	3.10	0.84	Agree
4	My work quality is consistently high.	110	120	40	23	3.08	0.91	Agree
5	I feel productive and efficient in my role.	90	140	40	23	3.01	0.87	Agree
Aggregate Mean and Std						3.10	0.87	Agree

Source: Fieldwork, 2026

The aggregate mean and standard deviation for employee productivity were 3.10 ± 0.87 , signifying general agreement that productivity levels are consistently high. Employees expressed strong agreement with statements about meeting deadlines,

Managing workloads effectively, exceeding performance expectations, maintaining high-quality work output, and feeling productive in their roles.

7. Correlation Matrix

Table 7: Correlation Matrix for the Study Variables

Parameters	ALS	DLS	IM	EM	EP
ALS	1.000				
DLS	0.028	1.000			
IM	-0.055	-0.006	1.000		
EM	-0.061	-0.008	0.993	1.000	
EP	-0.059	0.009	0.996	0.994	1.000

Source: Fieldwork, 2026

The correlation matrix reveals that autocratic leadership style (ALS) shows negligible and negative correlations with intrinsic motivation (IM, -0.055), extrinsic motivation (EM, -0.061), and employee productivity (EP, -0.059), suggesting that more autocratic leadership is associated with slightly lower motivation and reduced productivity. Democratic leadership style (DLS) shows a very weak positive correlation with employee productivity (0.009). Notably, intrinsic and extrinsic motivation demonstrate very strong positive correlations with employee productivity (IM–EP: 0.996; EM–EP: 0.994), underscoring their significant roles in enhancing productivity. The strong correlation between intrinsic and extrinsic motivation (0.993) further highlights the complementary roles these factors play.

8. Multiple Regression Analysis and Hypothesis Testing

Table 8: Summary of Multiple Regression Analysis Results (Hypotheses 1–4)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.219353	0.027745	-7.905911	0.0000
ALS	-0.002068	0.004223	-0.489766	0.6247
DLS	0.008384	0.005104	1.642684	0.0415*
IM	0.689949	0.044512	15.50028	0.0000**
EM	0.360211	0.046455	7.753958	0.0000**
R-squared: 0.993613		Adjusted R-squared: 0.983524		
F-statistic: 11,201.14		Prob(F-statistic): 0.000000		

Source: Fieldwork, 2026. Note: * Significant at $p < 0.05$; ** Significant at $p < 0.01$

The overall regression model is statistically significant ($F = 11,201.14$; $p = 0.0000$), and the R^2 value of 0.9936 indicates that approximately 99.36% of the variation in employee productivity is explained by the independent variables. The adjusted R^2 of 0.9835 confirms the robustness of the model. Regarding H_{01} , the coefficient for ALS is -0.0021 ($p = 0.6247$), which is greater than 0.05; hence the null hypothesis is not rejected. Autocratic leadership style does not significantly affect employee productivity. For H_{02} , the coefficient for DLS is 0.0084 ($p = 0.0415 < 0.05$); the null hypothesis is rejected. Democratic leadership style has a significant positive effect on employee productivity. For H_{03} , the coefficient for IM is 0.6899 ($p = 0.0000 < 0.05$); the null hypothesis is rejected. Intrinsic motivation has a highly significant and positive influence on employee productivity. For H_{04} , the coefficient for EM is 0.3602 ($p = 0.0000 < 0.05$); the null hypothesis is rejected. Extrinsic motivation significantly enhances employee productivity.

9. Discussion of Findings

Autocratic Leadership Style and Employee Productivity

The finding that autocratic leadership style does not significantly affect employee productivity ($p = 0.6247$) is consistent with Osei *et al.* (2021) [10], who reported that autocratic leadership styles often suppress creativity and engagement in dynamic work environments. Goleman (2020) [17] similarly highlighted that leadership approaches relying heavily on control and compliance may undermine employee morale and performance. The negative coefficient further underscores the potential adverse effects of overly authoritarian leadership. However, these findings are inconsistent with Chang *et al.* (2022) [41], who suggested that in precision-driven environments, autocratic leadership

can enhance efficiency. The discrepancy may reflect differences in organizational culture, workforce dynamics, and task characteristics in the studied context.

Democratic Leadership Style and Employee Productivity

The significant positive relationship between democratic leadership and employee productivity ($p = 0.0415$) is consistent with Malik and Khan (2023) [24], who demonstrated that inclusive leadership fosters a sense of belonging, collaboration, and shared accountability. Ogbonna *et al.* (2021) [27] similarly argued that democratic leadership enhances communication and trust, empowering employees to contribute more effectively. While Jamil and Akbar (2022) [22] noted that democratic leadership can slow decision-making in time-sensitive operations, the findings of the current study suggest that the collaborative nature of democratic leadership is particularly well-suited for enhancing productivity in the manufacturing firms surveyed.

Intrinsic Motivation and Employee Productivity

The highly significant positive influence of intrinsic motivation on employee productivity ($p = 0.0000$) is consistent with Deci and Ryan's (2020) [11] Self-Determination Theory, which emphasizes the role of intrinsic motivation in fostering engagement and productivity. Ahmed and Bello (2023) [3] similarly confirmed that employees who find intrinsic value in their work are more likely to exhibit higher commitment and output. While Wei and Fang (2021) [40] noted that external factors are critical complements to intrinsic motivators, and Eze *et al.* (2020) [13] observed that employees in monotonous roles may struggle to sustain intrinsic motivation, the findings underscore the transformative potential of intrinsic motivation in manufacturing firms.

Extrinsic Motivation and Employee Productivity

The significant positive effect of extrinsic motivation on employee productivity ($p = 0.0000$) aligns with Herzberg's Two-Factor Theory, which identifies extrinsic rewards as critical hygiene factors for maintaining job satisfaction and productivity. Nwankwo and Umeh (2023) [26] similarly demonstrated that extrinsic motivators effectively boost performance in competitive organizational settings. However, Adetayo and Alabi (2021) [2] cautioned that overreliance on extrinsic rewards might lead to diminishing returns, and Robertson *et al.* (2020) [35] noted that excessive emphasis on extrinsic motivation could undermine intrinsic drivers. Despite these caveats, the current findings reinforce the critical role of extrinsic motivators in enhancing productivity in manufacturing firms.

Conclusion

The study concluded that leadership styles and motivational factors play critical roles in influencing employee productivity in manufacturing firms in Delta and Edo States. While autocratic leadership showed no significant impact on productivity, democratic leadership positively enhanced it by fostering inclusivity and valuing employee input. Both intrinsic and extrinsic motivation significantly contributed to higher productivity levels, underscoring the need for organizations to prioritize both personal and external drivers of employee performance. Intrinsic motivation demonstrated a larger effect size than extrinsic motivation, suggesting that internal satisfaction from meaningful work is a more powerful driver of sustained productivity. The

findings emphasize that a balanced approach to leadership and motivation is essential for optimizing productivity in the manufacturing sector.

Recommendations

Based on the findings, the following recommendations are made:

1. Adopt Participatory Leadership: Manufacturing firms should encourage democratic leadership styles that involve employees in decision-making processes, as this fosters a sense of value and ownership among employees.
2. Promote Intrinsic Motivation: Employers should focus on strategies that enhance employees' intrinsic motivation, such as recognizing achievements, offering challenging tasks, and creating opportunities for skill utilization and career development.
3. Implement Extrinsic Incentives: Organizations should provide competitive monetary rewards, job security, and benefits like housing and healthcare to sustain high levels of productivity.
4. Develop Leadership Training Programs: Firms should invest in leadership training programs to equip managers with skills that blend participatory and motivational strategies effectively.
5. Balance Leadership Styles: Where quick decision-making is necessary, autocratic elements may be employed, but organizations must ensure this does not become the dominant leadership approach given its negligible effect on productivity.

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