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Internal Control System and Employee Productivity of Selected Manufacturing Firms in Nigeria

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ABSTRACT: An effective and efficient internal control system creates an organization's confidence in its ability to perform or undertake a particular task and prevents errors and losses through monitoring and enhancing organization. This study examines into the effect of internal control system on employee productivity of manufacturing firms in Nigeria. The descriptive survey design was employed in selecting ten manufacturing companies in Lagos Nigeria, and using the purposive sampling technique in the selection of hundred respondent within the three levels of management in the organization. The study employed the multiple regression analysis which revealed that control environment, risk assessment, monitoring activities has positive significant effect on employee productivity while control activities has negative significant effect on employee productivity. It is therefore recommended that manufacturing firms should invest in strengthening their risk assessment processes and ensure the control environment is supportive, ethical, and performance-driven. Monitoring activities should be enhanced to provide regular feedback and ensure the effectiveness of internal controls. However, control activities should be designed to facilitate, rather than restrict, employees' ability to perform their duties efficiently.

KEYWORDS: Employee Productivity; Internal control system; multiple regression analysis

INTRODUCTION

The internal operation of an organization is relevant and important to the overall monetary and non-monetary performance of an organization (Okafor et al. 2025). Operational performance or efficiency illustrates the day-to-day wellness of an organization that sums up to the overall yearly performance of such organization. Peculiar, to the manufacturing industries an inadequate operational efficiency and performance will certainly undermine the quality of product offered by the company, to its customer's and investor's (Makut & Ibrahim, 2021; Okafor, 2025).

However, a poor operational efficiency and performance can affect customer satisfaction and reduce employee productivity. Employee productivity is an important concept that illustrates the extent of operational efficiency and performance of an organization (Olufunmilayo & Hannah, 2018). In order to reduce redundancy, fraud and poor operational process an organization must implement policies, process and procedures that would continually improve the operational efficiency of the organization (Eniola et al., 2021; Ziorklui et al, 2024).

Operational efficiency encompasses several strategies and techniques used to accomplish the basic goal of delivering quality goods to customers in the most cost-effective and timely manner. (Alawaqleh, 2021). Resource utilization, production, distribution and inventory management are all common aspects of operational efficiency, explains productivity software maker. (Adekunle., 2019; Agapia, et al., 2025). Operational efficiency is the relationship between an organizations's output and input, that when healthy, helps businesses cut down on unnecessary costs while increasing revenue. It's what businesses strive to do: produce a high-quality product at scale with as few resources as possible (Adekunle., 2019; Agapia, et al., 2025).

Internal control system are the internal policies and structure established by the strategic level manager's and tactical manager to ensure all the resources in the organization, align towards the attainment of short- and medium-term objectives (Aren et al, 2016; Adegoke 2018). It is the checks and balances, in-scribed into the operational pattern of the organization to prevent, detect, and correct error and fraud. It is the pattern employed in the operation of the organization to ensure the employees comply with laws and regulations of the organization (Gift, 2018; Weil and Reinstein, 2018).

Inclusively, internal control systems are used as management tools in financial and operational management. It is the process involving the usage of integrated activities that are concealed in all firms towards the actualization of the operational performance of the organization. These systems ensure that resources are effectively utilized, risks are minimized, and organizational goals are achieved through structured and coordinated efforts (Kesuma & Fachruzzaman, 2024). By establishing clear procedures, responsibilities, and accountability, internal controls help in safeguarding assets, enhancing the reliability of financial reporting, and promoting compliance with policies and regulations. In relation to employee productivity, internal control systems serve as a guiding framework that shapes the behavior and output of staff. A strong control environment sets the tone at the top, encouraging ethical behavior, discipline, and a performance-oriented culture. When employees clearly understand their roles, responsibilities, and the expectations placed upon them, they are more likely to perform efficiently. Moreover, effective risk assessment and monitoring activities identify and mitigate operational disruptions, allowing employees to focus on core tasks without unnecessary interference or uncertainty (Astuti & Nuryatno, 2024).Based on the premises above this study examined into the effect of the component of internal control system on operational efficiency (employee productivity) of selected manufacturing firms in Nigeria.

LITERATURE REVIEW

Theoretical Review

Attribution Theory

Attribution theory was created by Fritz Heider as "a theory for explaining the behavior of oneself and others as a result of internal and external factors". According to Morissan in Astrawan & Achmad (2023), attribution theory explains how people conclude the reasons for their own or other people's behavior. Theories explain the processes that occur within us so that we can understand our own behavior and the behavior of others. Attribution theory is the study of how someone explains events, causes or causes of their actions.

System Theory

System theory, introduced by Ludwig von Bertalanffy in 1968, explains that both organizations and natural phenomena can be seen as intricate, interrelated systems made up of interacting components. A central idea of the theory is that systems should be understood holistically, where the collective system is more significant than the individual parts. The behavior and characteristics of a system are shaped by the interactions and relationships among its elements. Each part of the system is interdependent, meaning that a change in one area can influence others and affect the system overall. This emphasizes the presence of feedback mechanisms and deep interconnectedness within systems. Additionally, systems often have a hierarchical organization, where smaller subsystems are embedded within larger ones, each contributing to the system's overall function. Systems are also open to their environments, allowing the exchange of resources, information, and energy, which supports adaptation and responsiveness to external conditions. Feedback loops are vital for monitoring performance and enabling systems to adjust positive feedback promotes change, while negative feedback helps maintain balance and stability.

Empirical Review

Chindengwike (2025) investigated into the influence of internal control components on performance in Local Government Authorities. The subject matter was to determine how internal control affects performance capturing all the components of internal control systems. The study employed the descriptive survey design, and a sample size of one hundred and thirty employees was selected from the municipal. The study was anchored on agency theory. The study used the correlation matrix and regression analysis. The findings reveals that control activities, risk assessment, information and communication, and performance in local government units. Furthermore, the study discovered no statistically significant link between the monitoring and control environment and the performance of local governments.

Ziorklui, et al., (2024) examines into the effectiveness of internal control in the prevention and detection of fraud. The subject matter is to determine how internal control reduce the occurrence of fraud in the organization. The research captures the overview of internal control mechanisms, types of internal control, effectiveness of fraud prevention, effectiveness of fraud detection, evaluation and assessment in fraud prevention and detection, enhancing internal control mechanism, and internal audit process. The review concludes by offering best practices for enhancing internal control mechanisms, emphasizing continuous monitoring, employee training, and the adoption of advanced technologies. The critical role of management in fostering a culture of ethical behavior and supporting internal audit functions is underscored. Recommendations for organizations and directions for future research are provided to guide ongoing efforts in fraud prevention and detection.

Kesuma & Fachruzzaman (2024) examines into the analysis of internal control and fraud prevention efforts in Public Sector Accounting. The subject matter was to carry out a comprehensive literature review of ten international and national studies. The theoretical framework includes fraud triangle theory, fraud diamond theory, and internal control. The review was captured from

2019 to 2023 from top databases. The findings depicts that internal control is an effective tools and components in preventing accounting fraud in the public sector organizations.

Olorunfemi (2024) examine into the effect of internal control on financial reporting quality. The subject matter is to determine how internal control dynamics affect the financial reporting level of the organization. The study employed the survey research design in the selection of two hundred and thirty three management staff. The anchor theory of the study is the contingency theory. The study concludes that efficient internal controls system enhanced improved financial reporting quality.

Kurniasih & Sari (2024) investigated into the relational impact of the role of internal audit, audit committee characteristics and internal control on fraud prevention. The subject matter is to determine how internal audit, audit committee and internal control affect fraud detection of Jakarta peoples credit bank. The quantitative approach was employed which informed sourcing for information using questionnaire for twenty-six respondent. The F-test, T-test and linear regression was used which depicted that internal audit, audit committee attribute have impact on fraud detection.

Astuti & Nuryatno (2024) examines into Fraud Prevention in Indonesian State-Owned Enterprises Examining the impact of IT-Based Auditing, Risk Management, Internal control systems and Ethical Culture. The study matter was to captures various internal peculiarities of organization on fraud prevention and reduction. The study employed the qualitative research process in capturing six department in the selected organisations. The study employed and used the SEM-PLS to determine the level of relationship between the dependent and independent variables. The findings depicts that technological, managerial and cultural factors in fraud prevention, offering practical implication for organisations seeking to combat fraud effectively.

Nshimiyimana (2024) investigated into the effect of internal control system on financial performance of transport companies in Rwanda. The subject matter was to determine how internal control component affect various aspect of performance like profitability, Liquidity, Accountability, financial reporting. The study employed the descriptive and correlational research design were one hundred and fifty-five respondent were selected. The study employed the descriptive analysis, correlation and regression analysis. The findings reveals that all the component has positive significant effect on all measures of performance selected in the research work.

Ghanem & Awad (2023) examines into impact of internal control system on the reduction of fraud in Lebanon. The subject matter is to investigate if the applies internal control mechanism aid in the reduction of fraud in Commercial sector. The study employed the quantitative approach, in the selection of three hundred and eight business. The study anchors of the contingency theory and Agency theory. The findings depicts that business can improve their fraud prevention through tactics and safeguard their assets in the Lebanese Market.

Nisak & Rochayatun (2023) in their inquiry carried out a review on the role of internal audit, fraud detection and prevention in Universities. The subject matter is to determine how internal audit aid in fraud detection in Universities through a comprehensive literature review addressing relevant database like Emerald, Springer, Google scholar. The inquiry captures the concept of internal audit role, the role of internal audit in detection of fraud, the role of internal audit in preventing fraud. The findings reveals that internal audit is very important in detection of fraud in the University environment.

Eniola, et al., (2021) investigated into the relational impact between internal control structures and financial performance from listed companies in Nigeria's South West Region. The subject matter is the determine how five components of internal control affect operation efficiency (return on assets). The study was anchored on stakeholder theory. The employed the ex-post facto survey research design which informed the selection of seventy-seven publicly listed firms. The findings indicated a favorable association between internal audit control, risk management, monitoring practices and operational performance, pointing to the objectives. Monitoring practices and control environments have a significant negative impact on asset returns.

Samuel, et al., (2021) examines into the effects of internal control system on the prevention of fraud in the deposit money banks in Kwara State Nigeria. The subject matter is to determine how internal control system and measure affect fraud prevention. The study employed the descriptive survey design which informed the purposive random sampling technique. The theoretical framework which includes agency theory. The study depicts that internal control system have positive significant effect on fraud prevention.

Edori & Ogaluzor (2018) examines into the Role of Internal control system in mitigating Embezzlement and Payroll Fraud in Small and Medium Enterprises. The subject matter is to determine the relationship between Embezzlement, Separation of duty, internal check, and Proper procedure of authorization. The study employed qualitative approach in four department in ten different Obio/Akpor Local government in Rivers state. The findings reveals that segregation of duty; internal check and proper procedure for authorization will cause a reduction in embezzlement and payroll fraud in SMEs. We then recommended that internal control system should be installed and strengthened in all SMEs.

Olufunmilayo & Hannah (2018) examines how internal control system affects employee performance in the Small Scale Manufacturing Enterprises. The subject matters is to determine internal control system affect employee performance in 4,500 registered small and medium scale enterprises in the Ondo State Chapter. The employed the qualitative research approach and collection of information using the questionnaire. The findings reveals that revealed that control environment and monitoring have a positive significant effect on employee performance.

Haladu (2018) examines into the relationship between fraud detection and internal control measures in the deposit money banks in Nigeria. The subject matter is to determine how total assets, total accruals, net revenue, accounts receivables, plant property and equipment affect performance. The study was anchored on the agency theory. The findings depicts that internal control measures of control environment, risk assessment, and control activities have negative influence on fraud detection and prevention (discretional accruals).

Adetiloye, et al (2016) examines into the relationship between fraud prevention and internal control in Nigeria Banks. The subject matter is the investigated the issue of internal control and fraud prevention in the banking industry using the primary and secondary data. The primary variables employed are the separation of duties, monitoring, and staff qualification while the secondary variables entails the bank profit, regulation, technology and broad money supply. The multiple regression analysis was used which reveals that internal control on its own is effective against fraud, but not all staff are committed to it, while the secondary data is quite supportive of the primary data but more exemplifying in that *M2*, staff qualifications and technology were significant throughout the various dependent variables. It is also clear from the regressions that technological based fraud is significant.

METHODOLOGY

This study employed the descriptive survey design. The independent variables in this study includes; control environment, risk assessment, control activities, information and communication and monitoring activities, while the dependent variables is employee productivity. The study selected ten manufacturing firms in Lagos State. The study sample size is hundred respondent from the strategic level, tactical level and operational level in Lagos State.

This model was adapted and adjusted to suit the present study from the study of Chindengwike (2025), Ghanem & Awad (2023) and Eniola et al (2021).

The linear equation is given below;

$EMP_i = f(INTC_t)$……………………………………………………………1

$INTC_t = f\left(CE_{t,} CA_{t,} RAS_{t,} IFC_{t,} MA_{t,}\right)$………………………………2

Where:

EMP; Employee productivity at time t

INTC; Internal control system at time t

Independent Variable

CE: Control environment at time t

CA: Control activities at time t

RAS: Risk assessment at time t

IFC: Information and communication at time t

MA: Monitoring activities at time t

RESULTS AND DISCUSSION

Table 4.1: Descriptive Analysis

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Employee_productivity	100	5.00	13.00	8.4400	2.44255
Control_Environment	100	5.00	14.00	8.9800	2.48218
Risk_Assessment	100	5.00	13.00	8.5300	2.34178
Control_Activities	100	6.00	16.00	9.8100	3.46613
Information_Communication	100	5.00	13.00	8.8300	2.53084
Monitoring_Activities	100	6.00	13.00	9.7700	2.26013
Valid N (listwise)	0				

Researcher's Field Survey, 2025

Table 4.1 showed employee productivity has a mean value (average value) of 8.44. The highest value of 13.00 and lowest value of 5.00. The standard deviation shows that level of disparity of the group from the mean value of 8.44 is 2.44. Control environment has a mean value (average value) of 8.98. The highest value of 13.00 and lowest value of 5.00. The standard deviation shows that level of disparity of the group from the mean value of 8.98 is 2.48. Risk assessment has a mean value (average value) of 8.53. The highest value of 13.00 and lowest value of 5.00. The standard deviation shows the level of disparity of the group from the mean value of 8.53 is 2.34. Control activities has a mean value (average value) of 9.81. The highest value of 16.00 and lowest value of 6.00. The standard deviation shows that level of disparity of the group from the mean value of 9.81 is 3.46. Information and communication has a mean value (average value) of 8.83. The highest value of 13.00 and lowest value of 5.00. The standard deviation shows that level of disparity of the group from the mean value of 8.83 is 2.53. Monitoring activities has a mean value (average value) of 9.77. The highest value of 13.00 and lowest value of 6.00. The standard deviation shows that level of disparity of the group from the mean value of 9.77 is 2.26.

Table 4.2 Multiple Regression Analysis

Variable	Co-efficient	Std-Error	t-stat	P-value
Constant	-0.819	0.304	-2.692	0.008
Control Environment	0.279	0.076	3.636	0.000
Risk Assessment	0.570	0.107	5.565	0.000
Control Activities	-0.266	0.035	-5.323	0.000
Information and Communication	0.095	0.131	0.701	0.485
Monitoring activities	0.260	0.073	3.839	0.000
R^2	0.936	**F.cal**		275.637
Adj. R^2	0.933	**Sig.F**		0.000

Author's Compilation, 2025 **Dependent Variable: Employee Productivity**

Table 4.2 depicted that control environment has positive significant effect on employee productivity at *(β_1= 0.279; ρ<0.05).* Risk assessment has positive significant effect on employee productivity at *(β_1= 0.570; ρ<0.05).* Control activities negative significant effect on employee productivity at *(β_1= -0.266; ρ<0.05).* Information and communication has positive insignificant effect on employee productivity at *(β_1= 0.095; ρ>0.05).* Monitoring activities has positive significant effect on employee productivity at *(β_1= 0.260; ρ<0.05).* The tables of revealed that {F-cal= 275.637, ρ< 0.05}, which showed that the overall model is statistically significant at 5% level of significance.

R^2 is a measure of goodness of fit of the regression model. It revealed that, the independent variable control environment, risk assessment, control activities, information and communication, monitoring activities account for 0.936 (93.6%) variation or change in the dependent variable employee productivity and if any additional variable is added it will still explain the variable at 0.933 (93.3%). The findings imply that a strong control environment, effective risk assessment, and consistent monitoring activities significantly enhance employee productivity. Organizations should prioritize these components of internal control to boost performance. However, the negative significant effect of control activities suggests that overly rigid or poorly implemented controls may hinder productivity, highlighting the need for a balanced approach. Although information and communication had a positive but insignificant effect, improving these channels may still support better outcomes. Overall, management should focus on optimizing internal control structures, particularly risk assessment and monitoring, while ensuring control activities are not counterproductive to employee efficiency. The findings agree with the works of Olufunmilayo and Hannah (2018), Eniola et al (2021), that component of internal control system have significant impact on employee productivity which is a components of financial performance of an organization.

CONCLUSION AND RECOMMENDATION

This study examined the relationship between components of internal control systems and employee productivity. The findings reveal that the control environment, risk assessment, and monitoring activities have a positive and significant effect on employee productivity. Among these, risk assessment had the strongest influence, suggesting that organizations that proactively identify and manage potential risks tend to create a more stable and productive workforce. Conversely, control activities showed a negative significant effect, indicating that excessively rigid or poorly designed controls may hinder employee performance. While information and communication had a positive but insignificant effect, its role in enhancing productivity should not be overlooked.

Based on these findings, it is recommended that manufacturing firms should invest in strengthening their risk assessment processes and ensure the control environment is supportive, ethical, and performance-driven. Monitoring activities should be enhanced to provide regular feedback and ensure the effectiveness of internal controls. However, control activities should be designed to facilitate, rather than restrict, employees' ability to perform their duties efficiently. Lastly, although information and communication were not significant in this study, improving internal communication channels can foster clarity, coordination, and responsiveness, which are vital to long-term productivity gains. Manufacturing firms should therefore adopt a holistic approach to internal control implementation.

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