INTERNAL CONTROL SYSTEMS AND OPERATING PERFORMANCE: EVIDENCE FROM SMALL AND MEDIUM ENTERPRISES (SMEs) IN ONDO STATE

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ABSTRACT

This study examined the internal control systems and operating performance of SMEs in Ondo State. Specifically, the study analyzed the impact of internal control system components on the profitability of SMEs in Nigeria and a total of 120 SMEs were sampled for the study. Data used in the study were collected with a questionnaire. Collected and collated data were analyzed using logistic regression estimation. The result showed that the probability that an SME will have high level of operating performance in terms of higher actual annual profit increases insignificantly by 0.78% and 1.95% respectively, when there is a unit measure of improvement in the control environment and control activities and that the probability decline insignificantly by 0.051%, 0.33% and 4.53% respectively, with a unit measure of improvement in risk assessment, information and communication and monitoring activities. The study established that the components of internal control system has no significant impact on the operating performance of SMEs in Ondo State, though the control environment and control activities have a positive impact on the probability of an enterprise recording a high operating performance. Hence, SMEs should maintain and leverage the positive impact of the control environment and control activities to boost their operating performance, However, issues surrounding risk assessment, information and communication as well as monitoring activities should be addressed systematically based on the reality of the operational structure of each enterprise.

1. INTRODUCTION

The internal control system is central in the discourse of operational performance of any organization because it encompasses all efforts put in place by management to ensure efficiency, effectiveness, compliance and reliability of business transaction and communication (Provasi & Riva, 2015). According to Mary, Albert, and Byaruhanga...
the survival of any business entity is connected to the quality of its internal control system, as it helps to drive home the core business objectives of any enterprise at the right time and cost effectively. The quality of the internal control system of any enterprise reflects the sensitivity of management to the role played by the control environment, control activities, risk assessment, information and communication as well operation monitoring in the discourse of operational performance (Committee of Sponsoring Organization [COSO], 2013). The internal control system is a concept that encapsulate the structure of any entity’s integrity, ethical values and all activities that ensure balance in moving towards optimality (Francis & Imiete, 2018). The internal control system reflects the framework of action that manages business strengths, weaknesses, threats and opportunities in an attempt to sustain the desired business outcome. Whether a business entity is large or small, the role of the internal control system in ensuring optimality cannot be underestimated. It is a potent tool for efficient resources mobilization in any business enterprise. Fundamentally, the role of internal control in an organization is to capture all policies and procedures put in place to ensure the transaction process is devoid of theft, inaccuracies and mismanagement (Attah-Botchwey, 2018). In the view of Obeidat et al. (2016) it helps a business entity to adapt to changing business environments and also manage the dynamics of the business world effectively and efficiently. According to Ibrahim, Diibuzie, and Abubakari (2017) the inability to achieve predetermined organizational goals often stems from loopholes inherent in the framework and structure of the internal control of a firm. With attention tilting in favour of SMEs in the world of business, the need to ensure effective internal control system is becoming a matter of concern, especially in the discourse of sustaining improved operational performance (Luyolo, Yolande, Juan-Pierré, & Wilfred, 2014). Internal control systems are now so crucial for SMEs because of the need to double-up in their quest to link higher contribution to national output especially in developing economy like Nigeria.

However, prior researchers have attempted to study the impact of internal control systems on different firm-specific indicators. For example, Ji, Lu, and Qu (2018) examined the relationship between internal control systems and audit fees in China; Babatunde and Dandago (2014) assessed the internal control deficiency and capital project mismanagement in the Nigerian public sector; Dubihlela and Nqala (2017) investigate the impact of internal control systems on the risk management of SMEs in Cape Metropole, South Africa.

In this study, we examined the impact of internal control on the operating performance of SMEs in Ondo State, Nigeria. Operating performance is an element of financial performance. The essence of operating performance is to show how profitable a firm is for a given financial period (Ademola et al., 2020; Eluyela et al., 2019). Previous studies like (Adedeqi & Olubodun, 2018; Nyakundi, Nyamita, & Tinega, 2014; Osei-Edward & Gyekye, 2013) have examined the relationship between the internal control system and financial performance in different regions. This study focused on the impact of internal control systems of SMEs in Ondo State.

Without mincing words, there is a need to holistically analyze the interconnection between components of internal control system and the operational performance of SMEs in Ondo State. This need stemmed from two fundamental gaps. First, there is a dearth of research studies on the subject matter in Nigeria, especially in the context of SMEs at state level. Second, the previous studies that identified the five key components of internal control systems do not incorporate these components into a model framework with operational performance using techniques of analysis with qualitative precision. Most of the previous studies only analyzed responses to items on each of the components or attempted to incorporate responses into an ANOVA model without following the dynamics of incorporating qualitative variable scales into a model (see (Mahadeen, Al-Dmour, Obeidat, & Tarhini, 2016; Mary et al., 2014; Sabina & Priya, 2010)). Hence, this study analyzed the contribution of each component of internal control systems to the operational performance of SMEs in Ondo State using a qualitative response model that reflects with better precision how each component contributes to the probability of high operational performance. The next section highlights literature review on the subject matter, section three shows the methodological approach applied in this study while section four presents the results and discussion of findings and finally conclusion and recommendations were provided in section five.
2. LITERATURE REVIEW

The internal control system is a concept that encapsulate the structure of any entity integrity, ethical values and all activities that control to ensuring balance in the traction for optimality (Francis & Imiete, 2018; Mary et al., 2014). Internal control system reflects the framework of action that manages business strength, weakness, threat and opportunity in an attempt to sustain desired business outcome. It is an integrated line of activities, policies, plans and effort by the management, board of directors and all the personnel to ensure the efficient achievement of organizational goals and objectives (Mahadeen et al., 2016). Every effort put in place by an organization to enhance operating performance is related directly or indirectly with internal control system components, and this is why the internal control system mirrors the viability and sustainability of a business entity especially in a highly flexible business environment (Masa'deh, Al-Dmour, & Tarhini, 2015). It will among other things in an organization, ensures high level operational accountability, establishment of goal-oriented procedures and pattern of operation (El-Masri, Orozco, Tarhini, & Tarhini, 2013). According to Provasi and Riva (2015) internal control is a systematic process which does not rely on occasional occurrences; it is a process objectively effect by an entity for optimal goal achievement assurance, effectiveness, efficiency and compliance of operation.

According to COSO 2013, internal control encompasses five major components namely the control environment, control activities, risk assessment, information and communication, as well monitoring activities. It depicts the operating design of an entity in terms of policies and procedures to provide a desired level of efficiency and effectiveness of operation, financial report reliability and ardent compliance. The control environment is a component of the internal control system that sets the pace for all other components of internal control system. It is the foundation upon which the entire internal control framework is based, because it is the component with undoubting influence on the consciousness of people in an enterprise. The control environment focuses on issues relating to organizational structure, policies and practices design, commitment to competence managerial fundamental philosophy and style among other things (COSO, 2013).

Control activities depict the policies and procedures which defines operational guidelines of an entity. Control activities is explained by the ruling policy in an organization and implemented by the set procedure. Control activities among other things in an interplay of mechanism geared towards risk mitigation, identification and correction of errors and behaviors that can negatively affect the attainment of organizational objectives (Provasi & Riva, 2015). They are rule based actions carried out at every level of a business entity and at every stages of business operation (KPMG, 2013).

Risk assessment is concerned with the identification and management of risk related to the accomplishment of organizational targets. This component depicts an entity’s capacity to rightly find risks and properly assess these risks with the focus on mitigating the identified risk to the minimum level where it becomes obvious that such a risk will not dampen the prospect of operations. Basically, risk assessment encapsulates the specification of suitable objectives, proactive identification and analysis of risk, assessment of fraud, and analysis of significant change (Provasi & Riva, 2015).

Information and communication as a component of internal control system relates to the network of system and process that facilitate information capturing and exchange, within appropriate time frame and in the form that is useful for players in an organization to making necessary and informed judgment (COSO, 2013). It ensures adequacy of both internal and external information circulation and dissemination in an organization in order to support other components of internal control system.

Monitoring activities are forms of evaluation carried out during business operations to affirm the presence and functionality of each component of the internal control framework. Monitoring activities ultimately capture ongoing evaluation, specific evaluation or combination of the two. Monitoring activities capture timely evaluation and communication of control deficiencies to parties that are responsible for taking corrective actions (COSO, 2013).
According to Mary et al. (2014) operational performance refers to how effectively an enterprise can minimize its cost per unit, maximize profit and attain predetermined goals. Operating performance is a measure of an entity’s standing in terms of the turnover, which reflects the combination of the result of operational activities, investment as well as financing activities of an organization for a specific period of time. In clear terms, operating performance is the measurable part of an entity’s outcome of engagement for defined frame of time (Azim, Ahmed, & Khan, 2015). According to Murata and Katayam (2009) operating performance in an organization captures both financial and non-financial measured outcome, which reflects the position of the organization’s ability to leverage on the available resource to merge desired end result. As relayed by Azim et al. (2015) common operating performance measures include operating cycle ratio, asset turnover, revenue per employee ratio, return on equity and return on asset to mention but few. Nagy (2009) posited that profitability measures of an entity reflect to a large extent the financial aspect of performance of the entity.

Attah-Botchwey (2018) examined the effect of internal control systems on revenue mobilization of Accra metropolitan assembly in Ghana. The study focused on the permanent staffs of the Accra metropolitan assembly. A non-probabilistic sampling method was used in sampling a total of 100 respondents. Data were analyzed with descriptive methods of analysis. Results revealed that there exists an internal control system in the case studied; that the internal control system is comprised of at least four components including control activities, risk assessment, information and communication and monitoring and that the internal control system affects revenue mobilization significantly in the Accra metropolitan assembly.

Mary et al. (2014) assessed the effects of internal control systems on the financial performance of sugarcane out-grower companies in Kenya. The study specifically analyzed the effect of internal control system components on the financial performance of the sugarcane out-grower companies. The study focused on nine sugarcane out-grower companies, descriptive analyses were employed using cumulative and percentages. The result revealed a noticeable effect of internal control system on financial performance.

Mahadeen et al. (2016) examined the effect of organization’s internal control systems on organizational effectiveness in Jordan. The quantitative research approach was adopted: data were retrieved with questionnaire from 151 Jordanian’s top and middle level managers. Descriptive and inferential analysis were employed in analyzing data collected during the study. The results disclosed in the study held that a significant positive effect exists between the study variables and organizational effectiveness. Following the findings of the study, the researchers recommended that improvement be made on the awareness concerning the significance of internal control system components and approaches to improve internal procedures and processes for improving the organizations effectiveness should be adopted.

Sabina and Priya (2010) analyzed internal control system and its impact on the performance of telecommunication companies in Sri Lanka. The study examined the effectiveness of internal control system on the performance of =Sri Lanka Telecom Limited. Sixty (60) employees of the company were sampled randomly. Primary and secondary data were used and analyzed using both descriptive and inferential methods of analysis.
result showed that there exists a significant connection between internal control system and organizational performance.

Nyakundi et al. (2014) evaluated the effect of internal control systems on financial performance of SMEs in Kenya. The researchers specifically assessed the relationship between internal control systems and return on investment among SMEs, established the level of business knowledge of an entrepreneur in internal control systems and its effect on financial performance of SMEs and assessed the relationship between internal control systems and growth in profits among SMEs. Cross-sectional survey research design was used as the study targeted a total of one hundred and sixty-eight (168) registered SMEs in Kisumu. The study employing a stratified sampling technique sampled one hundred and seventeen SMEs. Data collected and collated during the study were descriptively and inferentially analyzed and findings resulting from the study showed that a significant change in financial performance is linked to internal controls systems. The study following its findings suggested that training on the significance of internal controls among proprietors of SMEs should be caused.

Eke (2018) investigated the effect of internal control on the financial performance of hospitality organizations in rivers state. Survey research design was used in the study as primary data were also considered appropriate. The study’s population includes all hospitals operating in rivers state, the researchers considering the Taro Yamane formula sampled randomly 54 hospitals operating in the state excluding six (6) senior personnel selected from the administration, accounting and internal audit of the sampled hospitals. Data were retrieved primarily using a structured questionnaire, data collected were analyzed descriptively and inferentially – regression and correlation analysis. The investigation discovered that internal control significantly affects the financial performance of hospitals and a significant relationship exists between internal control and financial performance of hospitals in rivers state. The study considering its findings suggested among others that management of hospitals should frequently update their information and communication network to accommodate recent changes in the global environment. Ibrahim et al. (2017) assessed the impact of internal control systems on financial performance of health institutions in upper west region of Ghana. A sample of five (5) health institutions were employed in the study and a total of fifty respondents were further sampled purposively for the study. Data were collected primarily in the study with a structured questionnaire and were analyzed descriptively. The researchers realized a strong relationship between internal controls and financial performance. Premise on the study’s discoveries, it recommended that the governing body of the institutions, possibly supported by the Audit Reports Implementation Committee (ARIC), ensure that the appropriate internal control systems recommended by the auditors in health institutions are monitored periodically. Monday, Inneh, and Ojo (2014) examined the impact of internal controls on operating performance of small businesses in Lagos. The study’s population comprised small business owners in Lagos State and two hundred small scale businesses were sampled randomly for the study. Primary data were collected through the administration of self-structured questionnaire to SMEs in Lagos State. The descriptive and inferential methods of data analysis were used in the study. It was discovered that the variables of internal control used in the study exert a significance influence on the efficiency of operations, profitability and survivability of SMEs in Lagos. The study therefore recommended that managers of SMEs should consider issues of internal control in order to increase the gains and reduce the risk of fraud, loss and error.

2.1. The Concept of SMEs

The definition of SMEs differs with jurisdiction and there is no real consensus on the real definition of SMEs as the terms, ‘Small’ and ‘medium’ are relative and differ from industry to industry and from country to country. However, this study considers the following definitions of SMEs by various researchers. Adedeji and Olubodun (2018) defined small and medium scale enterprises (SMEs) as an enterprise that has an asset base (excluding land) of between N5Million – N500Million and a labor force of between 11and 300. Eluyela et al. (2019) defined SMEs as
an enterprise with an asset base excluding land a building of N10million to less than 100million with 10–49 employees for “SMALL” and N100million to less than N1billion with 50–199 employees for “MEDIUM”.

The Nigerian Bank for commerce and industrial (NBCI) defined small scale business as one with total capital not exceeding N750, 000 (excluding cost of land but including working capital). The Federal Ministry of Industry's guidelines to NBCI defined a small-scale enterprise as one with a total cost of not exceeding N5m (excluding cost of land but including working capital). The Nigerian Industrial Development Bank (NIDB) defined Medium Scale enterprise as an enterprise that has investment and working capital not exceeding N750,000, while it defined Medium Scale enterprises as those operating within the range of N750,000 to N3m. The central guidelines to commercial banks in 1979, stated that, small-scale enterprises were those with annual turnover not exceeding N5m, while the merchants’ banks were to regard small-scale enterprise as those with capital investment not exceeding N2m (excluding cost of land) or with maximum turnover, of not more than N5m.

The definition and classification of SMEs in Nigeria is in terms of capital employed, turnover and number of employees. The CBN communiqué No 69 of the special monetary policy committee meeting of April 15, 2010 acknowledged the existence of several definitions of SMEs. One of such definition/classification states that an enterprise that has an asset base (excluding land) of between N5 million to N500 million and labour force of between 11 and 300 belongs to the SME sub-sector. This definition is what the Small and Medium Enterprises Credit Guarantee Scheme (SMECGS) adopted. SMEs have also been broadly defined as businesses with turnover of less than N100million, for the Small and Medium Enterprises Equity Investment Scheme (SMEEIS), a small and medium enterprise is defined as any enterprise with a maximum asset base of N1.5 billion (excluding land and working capital) with no lower or upper limit of staff.

Following detailed review of empirical literature on internal control systems, operating performance and SMEs, the methodological approach adopted in this study is presented in the next section.

3. RESEARCH METHOD
3.1. Model Specification

This study adapted the models used by Mary et al. (2014) where financial performance measured in terms of cost per unit, goal attainment and profitability surplus were specified as a function of four components of internal control including control environment, risk assessment process, information system, and control activities. For better presentation (see Mary et al. (2014)) in Equation 1.

\[ y = \alpha_0 + \alpha_1 x \]

Where: Y is vector of financial performance variables, and x is a vector of the components of internal control system. The modification was done to employ quality response model in which operational performance was measured in terms of profitability variance which compares the projected annual profit with the actual annual profit of SMEs sampled in the study. Operational performance (OP) was dummied as 1 for positive profitability variance (i.e. actual annual profit is higher than projected annual profit) and 0 for negative profitability variance. On the other hand, internal control system was disintegrated into five key components to form set of explanatory variables namely control environment (CE), control activities (CA), risk assessment (RA), information and communication (IC), monitoring activities (MA). Hence, the model of the study is specified in functional and logit forms below:

\[ OP = f(CE, CA, RA, IC, MA) \]

\[ OP = \ln \left( \frac{P_i}{1 - P_i} \right) = \beta_0 + \beta_1 CE + \beta_2 CA + \beta_3 RA + \beta_4 IC + \beta_5 MA + \mu_1 \]

Where: \( P_i \) = Probability of high profitability, \( \mu_1 \) = stochastic error term.
3.2. Scope and Source of Data

The study used a structured questionnaire based on the COSO (2013) integrated framework of internal control which contained a scale for key elements of internal control system such as control environment, control activities, risk assessment, information and communication, monitoring as key elements of internal control system (See Nyakundi et al. (2014)). The scale measured quality of internal control system of 120 SMEs sampled major towns in Ondo State. Purposive sampling was adopted in this study due to the unavailability of total number of SMEs in Ondo State. The study data was collected via the use of structured questionnaires in October 2019 from sampled SMEs in Ondo State. Responses were based on an ordinal scale that ranked the quality of components of internal control in order of very low (VL), low (L), moderate (M), high (H), and very high (VH) with respective scores of 1, 2, 3, 4 and 5.

It is expected ‘apriori’ that $\beta_1, \beta_2, ..., \beta_n$ will be greater than zero in the model. This implies that all the key components of internal control are expected to exert positive impact on the profitability of SMEs sampled in the study.

3.2.1. Method of Analysis

The study used both descriptive and inferential statistical analyses (Adegboyegun, Ben-Caleb, Ademola, Madugba, & Eluyela, 2020; Eke, 2018; Kumuthinidevi, 2016). The descriptive analysis included percentage and frequency analysis of details of enterprises sampled in the study while inferential statistical analysis employed was logistic regression estimation.

4. DATA ANALYSIS AND RESULT

Table 1. Descriptive statistics on sampled SMEs’ duration of operation.

| Years of Operation | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------------------|-----------|---------|---------------|--------------------|
| Below 3 Years      | 36        | 30.0    | 30.0          | 30.0               |
| 3-6 Years          | 64        | 53.3    | 53.3          | 83.3               |
| 7-10 Years         | 8         | 6.7     | 6.7           | 90.0               |
| 11-14 Years        | 4         | 3.3     | 3.3           | 93.3               |
| 19-22 Years        | 4         | 3.3     | 3.3           | 96.7               |
| 23 Years and Above | 4         | 3.3     | 3.3           | 100.0              |
| Total              | 120       | 100.0   | 100.0         |

Table 1 presents descriptive statistics on the sampled SMEs’ duration of operation. 30% of the sampled SMEs commenced business less than three years ago. The firm age of SMEs between 3-6 years was 53.3%. Thereafter, 6.7% of SMEs were between 7-10 years of existence. 3.3% of the SMEs’ firm age was between 11-14, 19-22 and 23 as shown above. The staff size of the sampled SMEs was presented in Table 2. About 63.3% of the SMEs have 1-10 staff, 33.3% have 11-20 staff and 3.3% have 21-30 staff. The staff size of SMEs was considered to be low, and this is in line with the concept of what makes up SMEs.

Table 2. Descriptive statistics on sampled SMEs’ staff size.

| Staff Strength | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------|-----------|---------|---------------|--------------------|
| Valid          | 76        | 63.3    | 63.3          | 63.3               |
| 11-20          | 40        | 33.3    | 33.3          | 96.7               |
| 21-30          | 4         | 3.3     | 3.3           | 100.0              |
| Total          | 120       | 100.0   | 100.0         |
4.1. Logistic Estimation

Table 3. Logistic regression result.

| Variable | Coefficient | Odd Ratio | Z-test stat | Probability |
|----------|-------------|-----------|-------------|-------------|
| C        | 13.70324    | 893805.7  | 1.92        | 0.055       |
| CE       | .2768729    | 1.318999  | 0.44        | 0.662       |
| CA       | .6923089    | 1.998324  | 0.37        | 0.714       |
| RA       | -0.0180767  | .9820857  | -0.02       | 0.985       |
| IC       | -.117819    | .888857   | -0.19       | 0.848       |
| MA       | -1.610934   | .199701   | -0.79       | 0.429       |

Note: LR chi2(5) = 14.23, Prob = 0.0142, Pseudo R-square = 0.6042

The result presented in Table 3 reports the coefficient estimates and odd ratio of the logistics model estimated to analyze the impact of the control environment, control activities, risk assessment, information and communication and monitoring activities on the operating performance of SMEs in Ondo State. The result showed that both control environment and control activities exert positive insignificant impact on the probability of high operating performance of the selected SMEs. The result revealed that an increase in the score of the control environment by one unit will lead to an 0.2768729 increase in the log of odd in favour of high operating performance, while an increase in the score of control activities by one unit will lead to an 0.6923089 increase in the log of odd in favour of high operating performance.

On the other hand, the result showed that risk assessment, information and communication, as well as monitoring activities exert an insignificant negative impact on operating performance of the sampled SMEs. In clear terms, result reflected that the log of odd in favour of high operating performance will decline by about 0.0180767, 0.117819, 1.610934 for every increase by one unit in the score of risk assessment, information & communication, and monitoring activities respectively. The reported Pseudo R-square stood at 0.6042, which reflects the predictive power and the fitness of the estimated model.

4.2. Marginal Effect Estimation

Table 4. Marginal effect estimates.

| Variable | dy/dx | Std. Error | Z-test stat | Probability |
|----------|-------|------------|-------------|-------------|
| CE       | 0.0077786 | 0.01664 | 0.47 | 0.640       |
| CA       | 0.0194501 | 0.04448 | 0.44 | 0.662       |
| RA       | -0.0005079 | 0.02648 | -0.02 | 0.985       |
| IC       | -0.0033101 | 0.0186 | -0.18 | 0.859       |
| MA       | -0.0452585 | 0.05544 | -0.82 | 0.414       |

Marginal effect model estimation presented in Table 4 showed changes in the probability of high operating performance of the SMEs, with respect to changes in the level of the control environment, control activities, risk assessment, information and communication, and monitoring activities. As reported in Table 4, an increase in the score of the control environment will result in an 0.78% increase in the probability of high operating performance of SMEs sampled in the study and an increase in the score of the control activities will result in an 1.95% increase in the probability of high operating performance of SMEs, while an increase in the score of risk assessment, information and communication, and monitoring activities will result in an 0.051%, 0.33%, and 4.53% decline in the probability of high operating performance of SMEs respectively.
4.3. Post Estimation Test

| Statistics | Coefficient | Std. Error | Z-test | Probability |
|------------|-------------|------------|--------|-------------|
| C          | 0.1968581   | 1.092901   | 0.18   | 0.857       |
| _hat       | 0.8838746   | 0.469442   | 2.01   | 0.040       |
| _hatsq     | -0.0599914  | 0.1610982  | -0.37  | 0.710       |

Specification test result presented in Table 5 reported hat and hatsq statistics of 0.8838746 and -0.0599914 alongside probability values of 0.040 and 0.710 respectively. The reported probability values revealed that the model was correctly specified, with hat statistics as significant as expected and hatsq as insignificant as expected.

| Hosmer-Lemeshow chi2(8) | 2.48 |
|--------------------------|------|
| Prob > chi2              | 0.9626 |

The reported Hosmer-Lemeshow statistics stood at 2.48 alongside probability value of 0.9626. The standard fitness of the model was confirmed when the reported Hosmer-Lemeshow statistic was not statistically significant, which implied that there was no significant difference between the observed frequency and predicted frequency. The reported Hosmer-Lemeshow statistic and the corresponding probability value thus validated that the observed frequency of the model and the predicted frequency matched closely. Thus, the model was a good fit for analyzing the connection between the internal control systems and operating performance of SMEs.

5. DISCUSSION OF FINDINGS

The estimation results established that measures of internal control systems including the control environment and control activities exert a positive impact on the operating performance of SMEs sampled in the study. It revealed that the probability that SMEs will show a high level of operating performance in terms of higher actual annual profit increases by about 0.78% and 1.95% respectively, when there is a unit measure of improvement in the control environment and control activities.

The results also revealed that other components of the internal control system such as risk assessment, information and communication and monitoring activities exert a negative impact on the operating performance of SMEs. The result showed that for every unit increase in the measure of risk assessment, information and communication and monitoring activities, the probability of high operating performance tended to decline by 0.051%, 0.33% and 4.53% respectively. The results showed that none of the components of the internal control system exert a significant impact on the operating performance of SMEs in Ondo State. Our findings were in line with the study of Attah-Botchwey (2018).

6. CONCLUSION AND RECOMMENDATION

In this study, our findings showed that the control environment and control activities have a positive impact on the operating performance of SMEs. Hence, SMEs should ensure to maintain and leverage the positive impact of the control environment and control activities to boost their operating performance.

Most of the sampled SMEs have a firm age of less than three years with 1-10 employees. It was concluded that the internal control activities (segregation of duty, authorization and approval) in sampled SMEs would be difficult to achieve due to their number of employees and nature of transactions. Also, SMEs face challenges of implementing internal control due to employee related issues like lateness to work, no proper job descriptions, and lack of cooperation.
We therefore recommend that SMEs should pay attention to human resource management practices. In clear terms, SMEs should commit more to integrity, ethical value, competence, accountability, as well as development of preventive and detective control activities through the engagement of technology, and standardization of policies and procedures for transaction approval, verification and reconciliation. However, issues surrounding risk assessment, information and communication as well as monitoring activities should be addressed systematically based on the reality of the operational structure of each enterprise, so as not to undermine the role of the internal control system with a lopsided approach to risk assessment, information and communication and even monitoring activities.

This study was limited by the fact that the data used for this work were generated from only one state. This will, in essence, limit the generalization of our findings over all other states. However, the finding from this study remains valid. Future researchers can explore the impact of internal control systems on other states or regions.

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**REFERENCES**

Adedeji, A. O., & Olubodun, O. H. (2018). Internal control system in small scale manufacturing enterprises in Ondo State, Nigeria. *IOSR Journal of Business and Management, 20*(1), 34-39.

Adegboyegun, A. E., Ben-Caleb, E., Ademola, A. O., Madugba, J. U., & Eluyela, D. F. (2020). Fair value accounting and corporate reporting in Nigeria: A logistic regression approach. *International Journal of Financial Research, 11*(2), 301-310. Available at: https://doi.org/10.5430/ijfr.v11n2p301.

Ademola, A. O., Ben-Caleb, E., Adegboyegun, A. E., Eluyela, D. F., Falaye, A. J., & Ajayi, A. S. (2020). Rotating and savings credit association (ROSCAs): A veritable tool for enhancing the performance of micro and small enterprises in Nigeria. *Asian Economic and Financial Review, 10*(2), 189-199. Available at: https://doi.org/10.18488/journal.aefr.2020.102.189.199.

Attah-Botchwey, E. (2018). Internal control as a tool for efficient management of revenue mobilization at the metropolitan, municipal and district assemblies in Ghana: A case study of Accra metropolitan assembly. *American International Journal of Contemporary Research, 8*(1), 29-36.

Azim, M., Ahmed, H., & Khan, A. S. (2015). Operational performance and profitability: An empirical study on the Bangladeshi Ceramic companies. *International Journal of Entrepreneurship and Development Studies, 3*(1), 63-74.

Babatunde, S. A., & Dandago, K. I. (2014). Internal control system deficiency and capital project mis-management in the Nigerian public sector. *Procedia-Social and Behavioral Sciences, 164*, 208-221. Available at: https://doi.org/10.1016/j.sbspro.2014.11.069.

Committee of Sponsoring Organization [COSO]. (2013). Internal control integrated framework. Retrieved from: https://ce.jalisco.gob.mx/sites/ce.jalisco.gob.mx/files/coso_mejoras_al_control_interno.pdf.

Dubihlela, J., & Nqala, L. (2017). Internal controls systems and the risk performance characterizing small and medium manufacturing firms in the Cape Metropole. *International Journal of Business and Management Studies, 9*(2), 87-103.

Eke, G. O. (2018). Internal control and financial performance of hospitality organizations in Rivers State. *European Journal of Accounting, Auditing and Finance Research, 6*(3), 92-52.

El-Masri, M., Orozo, J., Tarhini, A., & Tarhini, T. (2015). The impact of IS-business alignment practices on organizational choice of IS-business alignment strategies. Paper presented at the The 19th Pacific Asia Conference on Information Systems (PACIS 2015), Paper 215, Singapore, 6-9 July 2015.

Eluyela, F., Adetula, D. T., Oladipo, O., Nwanji, T. I., Adegbola, O., Ajayi, A., & Faley, A. (2019). Pre and post adoption of IFRS based financial statement of listed small medium scale enterprises in Nigeria. *International Journal of Civil Engineering and Technology (IJCIET), 10*(1), 1097-1108.
Francis, S., & Imiete, B. U. (2018). Internal control system as a mechanism for effective fund management of universities in Bayelsa State, Nigeria. *Global Journal of Social Sciences, 17*(1), 77–91. Available at: https://doi.org/10.4314/gjss.v17i1.8.

Ibrahim, S., Diibuzie, G., & Abubakari, M. (2017). The impact of internal control systems on financial performance: The case of health institutions in Upper West Region of Ghana. *International Journal of Academic Research in Business and Social Sciences, 7*(4), 684–696. Available at: https://doi.org/10.6007/ijarbss/v7i4/2940.

Ji, X.-d., Lu, W., & Qu, W. (2018). Internal control risk and audit fees: Evidence from China. *Journal of Contemporary Accounting & Economics, 14*(3), 266–287. Available at: https://doi.org/10.1016/j.jcae.2018.07.002.

KPMG. (2013). COSO internal control – integrated framework (2013). Retrieved from: https://home.kpmg/content/dam/kpmg/pdf/2016/05/2750-New-COSO-2013-Framework-WHITEPAPER-V4.pdf.

Kumuthinidevi, S. (2016). A study on effectiveness of the internal control system in the private banks of trincomalee. *International Journal of Scientific and Research Publications, 6*(6), 71–91.

Luyolo, S., Yolande, S., Juan-Pierré, B., & Wilfred, I. (2014). The status of internal controls in fast moving small medium and micro consumer goods enterprises within the Cape Peninsula. *Mediterranean Journal of Social Science, 5*(10), 163–175.

Mahadeen, B., Al-Dmour, R., Obeidat, B. Y., & Tarhini, A. (2016). Examining the effect of the organization’s internal control system on organizational effectiveness: A Jordanian empirical study. *International Journal of Business Administration, 7*(6), 22–41. Available at: https://doi.org/10.5430/ijba.v7n6p22.

Mary, M., Albert, O., & Byaruhanga, J. (2014). Effects of internal control systems on financial performance of sugarcane outgrower companies in Kenya. *IOSR Journal of Business and Management, 16*(12), 2319–7668. Available at: https://doi.org/10.9790/487x-161216273.

Masa’deh, R., Al-Dmour, R. H., & Tarhini, A. (2015). Knowledge management strategies as intermediary variables between its/business strategic alignment and firm performance. *European Scientific Journal, 11*(7), 344–368.

Monday, J. U., Inneh, G. H., & Ojo, V. O. (2014). *Internal controls and operating performance of small businesses in Lagos Metropolis.* Paper presented at the Proceedings of the International Conference on Accounting, Finance and Management.

Murata, K., & Katayam, H. (2009). An evaluation of factory performance utilized KPI/KAI with data envelopment analysis. *Journal of the Operations Research Society of Japan, 52*(2), 204–220. Available at: https://doi.org/10.15807/jorsj.52.204.

Nagy, N. (2009). Determinants of profitability: What factors play a role when assessing a firm’s return on assets. *The University of Akron, Department of Economics.*

Nyakundi, D., Nyamita, M., & Tinega, T. (2014). Effect of internal control systems on financial performance of small and medium scale business enterprises in Kisumu City, Kenya. *International Journal of Social Sciences and Entrepreneurship, 1*(11), 719–734.

Obeidat, B., Al-Sarayrah, S., Tarhini, A., Al-Dmour, R. H., Al-Salti, Z., & Sweis, R. (2016). Cultural influence on strategic human resource management practices: A Jordanian case study. *International Business Research, 9*(10), 94–114. Available at: https://doi.org/10.5539/ibr.v9n10p94.

OseiAhia, E. K., & Gyekye, A. B. (2013). Internal control in small and microenterprises in the Vhembe District, Limpopo Province, South Africa. *European Scientific Journal, 13*(4), 215–222.

Provasi, R., & Riva, P. (2015). The updated COSO report 2013. *Journal of Modern Accounting and Auditing, 11*(10), 487–498. Available at: https://doi.org/10.17265/1548-6583/2015.10.001.

Sabina, S., & Priya, K. (2010). Internal control system and its impact on the performance of the Sri Lanka telecom limited in Jaffna district. *International Journal of Advanced Computer Technology, 2*(6), 56–64.

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