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## The Influence of Enterprise Risk Management Practices on Organizational Performance: Evidence from Kenyan State Corporations

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### Abstract

*The main purpose of the study was to determine enterprise risk management effect on organizational performance of state corporations in Kenya. This study was guided by agency theory. The study used explanatory cross sectional survey design. Primary data was collected from structured questionnaires. A survey was carried out on 218 state corporations in Kenya. Data collected was analyzed by use of descriptive and inferential statistics. The research hypotheses were tested using multiple regression analysis. The results revealed that risk structure, governance and process practices had positive and significant effect on organizational performance. This study contributes to theory by centering enterprise risk management on the empirical testing of agency theory on the relationship between enterprise risk management practices and organizational performance. The study recommends that policy makers in state corporations should integrate risk management practices across all functions and business units for the purpose of addressing risks before they even occur.*

#### Keywords:

Enterprise risk management  
Structure practices  
Organizational performance  
Governance practices  
Process practices.

#### JEL Classification:

G32; L25; L30.

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## 1. Introduction

Organizational performance is of huge interest to all entities including public, private, profit and not for profit. Mkalama (2014) posit that academics and practitioners have for a number of years endeavored to study why some organizations realize great levels of performance than others inside a similar industry. Therefore, for organizations to appropriately gauge their performance, they have to update their estimation frameworks to guarantee that they mirror their present condition and systems. Scholarly works in finance and accounting over the years have shown that organizational success rarely depend on a single factor. Organizations run in a dynamic and competitive environment. Therefore, managers have to develop strategies that give their organizations an advantage above their competitors. Consequently, Enterprise Risk Management (ERM) Practices is an aspect among key variables that has been utilized to explain performance. ERM underpins value creation mechanisms by assisting the executives to consider future occasions, and make moves in a way that decreases the probability of results that prompt performance reduction (Hoyt & Liebenberg, 2011). Therefore, ERM practices are likely to promote noteworthy responsibility, concern, and tenure of internal controls within the entity.

An all-inclusive program for handling business risks offers an important basis for supporting competitive advantage (Economist Intelligence Unit, 2007). In reaction, several entities firmly consider that risk management is of most prominence to business enterprises (Mikes, 2005). Firms engage in some levels of risk while carrying out their business operations with an aim of improving their performance in a dynamic and competitive environment. This view is supported by Waweru and Kisaka (2013) who asserts that in industry, there is no technique of evading risks without giving up the prospect to gain profits.

Yazid, Hussin, and Daud (2011) posit that organizations have changed the manner in which they look at risk management; from a silo-based viewpoint which focused on individual business units to a holistic view being referred to as enterprise risk management (ERM). ERM is a process used to appraise and deal with all complex risks despite their sources and nature while protecting an organization from possible dangers or crisis. This view is in agreement with Golshan, Zaleha, and Rasid (2012) who opines that ERM has gained prominence in literature in providing a comprehension of the way it boosts firm performance, thus resulting to enlargement of shareholders value, (COSO, 2004; Gordon, Loeb, & Tseng, 2009; Pagach & Warr, 2007).

However, Bozkus (2014) posit that, while different organizations have been taking part in some phases of ERM, studies show that only a small number have a well-created ERM setup. The study aimed at giving recommendations on best practices to be applied when executing an effective ERM system dependent on practical matters and technical methodologies inside the business environs. The author classifies best practices into three components; ERM structure, process and compliance. On the other hand, Ching and Colombo (2014) classifies ERM practices into three dimensions, internal environment, risk assessment and ERM process. Lastly, Shad and Lai (2015) opines that ERM implementation model comprises three extents: Structure, Governance and Process. These extents are anticipated to be associated to organizational performance.

In addition, there is no unanimity on the advantages of ERM initiatives. Cormican (2014) argues that organization engage in ERM either for compliance with regulations or performance grounds. Studies by Hoyt and Liebenberg (2011); Smithson and Simkins (2005) found that ERM has a positive influence on performance. Contrary, McShane, Nair, and Rustambekov (2011) indicated that ERM frequently fails to realize the intended benefits. Therefore, there is a gap in determining whether the cost of investing in ERM would pay off at the end. Therefore, this study sought to join this debate by investigating effect of ERM practices relating to structure, governance and risk management process on organizational performance in Kenyan state corporations.

## **2. Literature Review**

### *2.1. Theoretical Framework*

This study was anchored on agency theory. In reference to agency theory, ERM tools are considered to give security upon prevailing risks that will probably show up in future upon resources invested by the principal persons. The presence of ERM implies that an agent has direction to the implementation of impending company's tasks. Hence, the advancement of ERM may impact the enhancement of an organization's financial performance (Muslih, 2018). ERM is recommended as an arrangement adopted by the entity's Board of Directors to address issues, which rotate around agency and information asymmetries inside the firm. Because of these imperfections, a firm may participate in formal risk management even when external frictions are not present, or fail to utilize risk management when external frictions are imminent. Consequently, this theory supplements the conventional corporate risk management theory, which emphasizes on removing the outcomes of frictions that are present outside the entity for example taxes, or contracting issues between the entity and other market participants (Froot, Scharfstein, & Stein, 1993; Smith & Stulz, 1985).

### *2.2. Hypothesis Development*

#### *2.2.1. Risk Structure Practices and Organizational Performance*

Risk structure practices provide the hierarchical framework, which takes into consideration the manner in which ERM responsibilities and roles are allocated among persons and functions. It further gives the organizational structure, reporting interactions and establishments concerned with ERM. Lastly, it includes policies and procedures manuals that address ERM. Risk structure of an organization has been regarded as a key factor in ERM adoption because it establishes ways in which risk management is planned in an institution (Aksel, 2009). Therefore, ERM structure aids top management to comprehend, communicate the risk elements and manage challenges in their areas of operation. Thus, it is expected that a good working risk structure practices will enhance organizational performance.

Acharyya (2009) did a study on the impact of ERM structure practices on insurer's stock market performance. Performance was considered in relations to risk adjusted returns while ERM Structure was measured in terms of risk controls, risk management culture, emerging risk management and strategic risk management as a holistic model to drive a value of insurer. Data was collected from 21 members of the professional risk management forum for the period 2000 to 2008. The study used standard and poor to measure strength of insurers' ERM into five categories; weak, adequate, adequate with positive trend, strong,

and excellent. Data was analyzed using regression model. The study found inconsistency between the insurers' stock market performance during the 2008 financial crisis since some insurers established superior performance while others were harshly affected by the financial meltdown. The study concluded that insurers' stock market performance depends on the characteristics of industry events rather than the performance of their ERM structure practices.

Similarly, Quon, Zeghal, and Maingot (2012) examined the relationship between ERM and firm performance for 156 non-financial companies listed in Toronto Stock Exchange. Performance was measured using sales changes, earnings before interest and taxes margin and Tobin's Q changes for 2006-2009 using content analysis from the companies' annual financial reports. ERM was measured based on ERM structure practices of fourteen types of risks with each being measured for the risks reported, the level of risk exposure, imports of such risks and strategies identified for management those risks. The study observed that the financial crisis had an instant outcome on financial market performance and a deferred outcome on accounting and operational performance. Further, companies with dissimilar performances did not report average levels of market or economic risk exposure or outcomes that are significantly different statistically. The study concluded that ERM structure practices did not have a significant effect on organizational performance.

Contrary, Laisasikorn (2014) studied the relationship between an effective enterprise risk management system, performance measurement system and financial performance of all companies in Thailand Stock Exchange. Enterprise risk management system was measured as risk culture, process, clear responsibilities and infrastructure using a 5-point likert scale questionnaire. Performance measurement system was measured using clear objectives, performance indicators and performance drivers using a 5-point likert scale questionnaire. On the other hand, financial performance was determined using Earnings per Share, Return on Equity, and Return on Assets obtained from Thailand Stock Exchange online database. Data was analyzed by way of structural equation modeling (SEM) technique. The study found that the relationship between enterprise risk management system (i.e. ERM structure practices), performance measurement system and a company's financial performance was not significant statistically. Based on the findings it clear that, there are inconclusive outcomes on relationship between risk structure practices and organizational performance. Thus, the study hypothesized that:

*Ho: There is no significant influence between risk structure practices and organizational performance of Kenyan state corporations.*

### *2.2.2. Risk Governance Practices and Organizational Performance*

Risk governance exists as an activity executed by the board and management of an organization in controlling risks and designing internal control systems for the identification, measurement and management of risk (Cavezzali & Gardenal, 2015). Further, the board is responsible for risk governance oversight, while senior management is in charge of policies and procedures implementation. Similarly, Viscelli, Beasley, and Hermanson (2016) looks at risk governance as the sound corporate governance mechanism that facilitates board of directors to arrange corporate goals with risk management in order to satisfy all stakeholders. John and Shundil (2015) defines risk governance as the principles of good governance applied to the identification, management and communication of risk. It includes values of accountability, involvement and transparency in establishment of structures and policies so as to create and implement risk-related decisions. Similarly, Shad and Lai (2015) opines that risk governance principles are: transparency, responsibility, fairness and accountability.

Organization can profit from ERM if the board and senior management demonstrate commitment to risk governance tasks, which sequentially have an impact on organizations risk culture. As much as all employees have a duty to play in risk management, the oversight role and establishment of a risk framework for good governance lies squarely with the board. A comprehensive risk governance framework upholds precision and knowing the organizations risk appetite, besides the means of executing assigned responsibilities by individuals. Therefore, John and Shundil (2015) posit that effective risk governance is essential in entrenching the correct risk culture because it explains the roles and responsibilities of each person. Althonayan, Killackey, and Keith (2012) posit that risk culture refers to principles, norms and behaviors mutual agreed on by members of an organization, which influence how they respond towards the enterprise risks.

Nahar, Jubb, and Azim (2016) investigated the association between risk governance and bank performance in developing countries where disclosure of information on risk is almost voluntary. Data was collected for the years 2006-2012 using yearly observations of 210 banks. Risk governance practices were measured by number of risk committees, risk disclosure, and presence of a risk management section. The study controlled for other corporate governance variables. Financial performance was determined by use of return on equity and return on assets while market-based performance was measured by use of Tobin's Q and buy-and-hold returns. Data was analyzed using regression analysis. The results showed that the relationship between risk governance and bank performance is a significant.

Further, Salaudeen, Atoyebi, and Oyegbile (2018) evaluated the relationship between ERM and performance of consumer goods companies in Nigeria Stock exchange. Performance was measured using return on assets while ERM was measured using ERM governance practices indicators like presence of audit

committee, risk management committee, presence of chief risk officer, presence of financial expertise and board size. Data was obtained from annual reports of twenty (20) selected consumer goods companies. Data was analyzed using descriptive statistics and generalized least square. The study found that the relationship between the presence of risk management committee, financial expertise, board size and performance was significantly positive. In addition, there was a significant negative effect on the relationship between audit committee and performance. Lastly, presence of a chief risk officer had no significant effect on performance.

Previous empirical studies on the relationship between risk governance and firm performance are mixed and inconclusive (Bauer, Frijns, Otten, & Tourani-Rad, 2008). Studies by Nahar et al. (2016); Ping and Muthuveloo (2017); Lukianchuk (2015) have found positive relationships, while Salaudeen et al. (2018); Cavezzali and Gardenal (2015); Battaglia and Gallo (2015); Aebi, Sabato, and Schmid (2012) found a mixed relationship. More so, Ponnu (2008); Hutchinson (2011) observed no association between risk governance and firms' performance. The probable reason for these inconclusive results might be institutional differences in countries studied. In addition, ERM governance has been measured using different indicators. This study will explore the use of ERM governance dimensions as conceptualized by Shad and Lai (2015) which uses the following four elements to examine governance; (i) ERM provides enterprise-wide information about risk (ii) Enables everyone to understand his/her accountability (iii) Reduces risk of non-compliance and (iv) Enables tracking costs of compliance.

*H<sub>02</sub>: There is no significant influence between risk governance practices and organizational performance of Kenyan state corporations.*

### *2.2.3. Risk Management Process Practices and Organizational Performance*

Yazid et al. (2011) asserts that ERM process practices among organizations are guided by different ERM frameworks. According to Obalola, Thomas, and Olfuemi (2014) the ERM frameworks are different in name; applied to different industries and regions. Further, they front diverse approaches with some leaning towards financial reporting and internal control, others management, corporate governance and accountability. However, Obalola et al. (2014) alludes to the fact that all frameworks have a shared theme: identification, prioritization and quantification of risks in order to help corporations effectively manage their risk exposure. ISO 31000's states that risk management is a fundamental part in value creation in organizational processes.

This study used the ERM process practices described by ISO 31000:2009. This is because the values and procedures of ISO 31000:2009 have been considered to be precise, clear and flexible in assisting organizations to manage their risk (RIMS, 2011). In addition, they are not specific to any one industry, type or size of organization. Thus, ISO 31000:2009 practices are appropriate and applicable to all state corporations (SCs). The risk management process consists of risk identification, risk evaluation, risk analysis, risk treatment and risk monitoring (Purdy, 2010). Practices under risk management process enable the organization to assimilate business strategies so as to accomplish the desired objectives.

Rao (2007) did studies to evaluate the prominence of ERM in companies in Dubai. Primary data was obtained by interviewing 92 managers and business executives who belonged to several industry sectors through a survey carried out in February- March 2006. ERM was assessed through structured questions obtained from COSO frame work. Data was analyzed using logit model to identify statistically significant factors. The study found that companies in Dubai were still executing a few parts of ERM and additional awareness was required to be conducted through a coordinated strategic ERM process. Further, the study came up with a five - step logical process to assist companies in Dubai make knowledgeable decisions when handling enterprise risks. The process entailed to; differentiate risks, classify and prioritize the risks, model the risk, evaluate the effect on main performance indicators and lastly, handle the resultant change. This implies that practices under ERM process are vital for decision making.

Most of the studies conducted on ERM have concentrated on COSO –ERM frame work. This study has explored and used ISO 31000:2009 frame work because it is specific, clear and flexible when used to manage their risk. Further, empirical studies on the relationship between risk process and organizational performance are mixed and inconclusive (Alawattegama, 2018; Nyagah, 2014). However, studies by Callahan and Soileau (2017); Kisaka and Musomi (2015); Ping and Muthuveloo (2017) have found positive relationships on the association between ERM process and firms' performance. The possible reason for these inconclusive results could be the type of ERM framework adopted and the level of ERM implementation in the different organizations.

*H<sub>03</sub>: There is no significant influence between risk management process practices and organizational performance of Kenyan state corporations.*

## **3. Method**

This study adopted positivist philosophy because the research is anchored on theory from which hypotheses are drawn. In addition, data was collected from the field and analyzed. Hypotheses were tested empirically with the aim of either rejecting or failing to reject the hypotheses. Further, the researcher was independent of the study and did not influence the outcomes. Rather, the outcomes were determined by empirical testing of the variables. This study used explanatory cross-sectional survey research design. The

target population of the study was two hundred and eighteen (218) SCs which are spread within 18 ministries in Kenya according to [Republic of Kenya \(2013\)](#). Primary data on organizational performance and ERM practices was obtained through structured questionnaires. The questionnaire comprised of structured questions drawn from previous empirical studies and modified questions aligned to the variables founded on the context of the study. The questionnaire was designed on a five point Likert -type scale starting from (1) - strongly disagree to (5) – strongly agree.

### 3.1. Measurement of Study Variables

Measurement of study variables enables the reduction of abstract notions of constructs into observable characteristics that can be measured and facilitates the testing of the relationships among the variables in the theoretical model ([Sekaran, 2006](#)). It defines variables into measurable factors. The study has two variables, ERM practices as the independent variable while organizational performance is the dependent variable as shown in [Table 1](#). The study used modified and validated questions on organizational performance developed by [Ping and Muthuveloo \(2017\)](#); [Calandro and Lane \(2006\)](#) as well as Balance Score Card (BSC) measure of performance. Each indicator was scored and a raw score derived. The raw scores were combined to generate a composite score for organizational performance for each SC in Kenyan. The composite score of each organization is measured on a 5- point Likert scale. The composite score generated is what was used to measure organizational performance for this study. ERM practices as the independent variable for this study was operationalized based on risk structure, risk governance and risk management process as conceptualized by [Shad and Lai \(2015\)](#).

**Table-1. Summary of measurement of study variables.**

| Variable/Nature            | Operational indicators  | Measure                              | Questionnaire items | Supporting Literature   |
|----------------------------|---|--------------------------------------|---------------------|---|
| Organizational performance | Composite index of organizational performance (Financials, customers perspective, internal business process, learning and growth) | 5- point likert scale type questions | 10                  | <a href="#">Calandro and Lane (2006)</a> ; <a href="#">Marqués and Simón (2006)</a> |
| ERM structure practices    | outlined objectives, culture, key risk indicators (KRIs) and key performance indicators (KPIs)                                    | 5- point likert scale type questions | 6                   | <a href="#">Shad and Lai (2015)</a> ; <a href="#">Bozkus (2014)</a>                 |
| ERM governance practices   | integrated ERM strategy, accountability, compliance and risk reduction  | 5- point likert scale type questions | 7                   | <a href="#">Shad and Lai (2015)</a> ; <a href="#">Bozkus (2014)</a>                 |
| ERM process practices      | Risk identification, risk analysis, risk evaluation, risk treatment, risk monitoring and review                                   | 5- point likert scale type questions | 8                   | <a href="#">Purdy (2010)</a>  |

### 3.2. Model Specification

Data was analyzed using descriptive and inferential statistics. To facilitate testing of the hypotheses of the study, multiple regression equations outlined below were utilized. In the equations:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \xi_1$$

X<sub>i</sub>: Represents ERM Practices (Independent variables); where X<sub>1</sub> (ERM structure), X<sub>2</sub> (ERM governance) and X<sub>3</sub>: (ERM Process).

Y: Represent Organizational Performance (Dependent variable).

## 4. Results and Discussion

This section presents the empirical findings and interpretations of the research.

### 4.1. Sample Characteristics

The sample characteristics has been analyzed in terms of the rate of revenue growth, size of the corporations' which was examined in terms of the natural log of its total assets and implementation of the enterprise risk management framework in the state corporations. From the results 49.7% of the respondents were of the opinion that the SCs have realized an income growth below 5% while 27.9% of them were of the opinion that the SCs have elicited an income growth ranging from 6 to 10%. The findings indicate that only 3.6% of the respondents confirmed that their SC had realized an income growth of over 20%. Evidently, most of the SCs have exhibited dismal performance as evidenced by the income growth.

Regarding firm size, which was examined in respect to the value of the organization’s total assets, the study found that 43.7% of the respondents noted that their SC’s size is large, which ranged between the natural log of 22 to 24 while 10.7% of the SCs are small in size. Further, the study found that only 9.1% of the respondents have an asset value ranging from 25 to 27 indicating a very large firm size. The implementation of ERM framework was also ascertained by the study. Evidently, most (43.7%) of the respondents stated that ERM has been implemented though there is need for further improvement while 15.7% had robustly implemented ERM. On the contrary, the results show that the rest of the respondents comprise those who have adhoc implementation of ERM (18.8%), plan to introduce ERM (17.3%) while 4.6% of the SCs have not implemented ERM at all.

**4.2. Univariate Analysis**

The study measured every construct for each variable in the questionnaire using multiple items. Therefore, the average score of the multi-items for each construct was computed and used for additional analysis of the data. From Table 2, ERM structure has a mean score of 3.477 and standard deviation of 0.778. The normal curve is skewed to the left with a skewness of -0.435 and kurtosis measure of -0.097. ERM governance has a mean score of 3.562 and standard deviation of 0.705. It has skewness of -0.207 making it skewed to the left side of the curve along with a kurtosis -0.339. ERM process has a mean score of 3.432, standard deviation of 0.833. The curve is moderately skewed to the left with a skewness of -0.517 and a kurtosis of 0.024. The dependent variable (organizational performance), accounts for a mean of 3.612 and standard deviation 0.707. The curve is negatively skewed to the left with a skewness of -0.336 and kurtosis of -0.370. All the hypothesized relations advanced were established to be significant statistically at level  $p \leq 0.01$ , signifying adequate external validity of the measures. Subsequently, a significant and positive correlation exists between ERM structure and performance ( $r = 0.744, p \leq 0.01$ ), ERM governance and firm performance ( $r = 0.735, p \leq 0.01$ ), ERM process and SCs performance ( $r = 0.735, p \leq 0.01$ ) as well as intellectual capital and performance ( $r = 0.783, p \leq 0.01$ ).

**Table-2. Univariate analysis.**

| n=197 | Mean  | Std. Deviation | Skewness | Kurtosis | PERF   | ES     | EG     | EP |
|-------|-------|----------------|----------|----------|--------|--------|--------|----|
| PERF  | 3.612 | 0.707          | -0.336   | -0.37    | 1      |        |        |    |
| ES    | 3.477 | 0.778          | -0.435   | -0.097   | .744** | 1      |        |    |
| EG    | 3.562 | 0.705          | -0.207   | -0.339   | .748** | .773** | 1      |    |
| EP    | 3.432 | 0.833          | -0.517   | 0.024    | .735** | .765** | .742** | 1  |

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

ES= ERM Structure, EG=ERM Governance, EP=ERM Process, PERF= Organizational Performance.

**4.3. Test for Statistical Assumptions**

To assess whether the models fulfills the underlying assumptions of multiple regression procedure, the several statistical tests were done. This includes goodness of fit test for normal distribution, linearity, multicollinearity, outliers and homoscedasticity. Histograms and Kolmogorov-Smirnov test (K-S) one sample test were used so as to enable one compare shapes of the sample distribution to the shape of the normal curve and normality assumption of the population distribution. K-S results that normality assumption was not violated

In this study, linearity was tested using ANOVA test of linearity, results of linearity had a sig. for linearity of  $P < .05$ . The study did test for multicollinearity using Variance Inflation Factor (VIF) and Tolerance (TOL). The VIF for all the assessed parameters were found to be less than 4, suggesting that there was no problem of multicollinearity and thus the difference contributed by each independent variable was significant. In addition, all the factors should be included in the regression model. The assumption of homoscedasticity was tested using Levene statistic for equality of variances. Results showed that none of the Levene statistics was significant. Therefore, the assumption of homoscedasticity of variance was supported.

**4.4. Testing Hypotheses**

This study used regression models to determine the direct relationship between the independent variables (ERM structure, ERM governance and ERM process) on the dependent variable; organizational performance.

The results of multiple regressions, as presented in Table 3 revealed that ERM structure has a positive and significant effect on the performance of state corporations in Kenya with a beta value of ( $\beta$ ) = 0.30 ( $p$ -value = 0.000 which is less than  $p = 0.05$ ). Therefore, the study rejects the null hypothesis  $H_0$ , and it is observed that for each unit increase in ERM structure, there is 0.30 unit increase in the performance of state corporations. According to Hoyt and Liebenberg (2011) ERM structure establishes the policies, processes, competencies, reporting, technology, and a set of standards for risk management which improve performance. In conformity with the findings of the study, Shad and Lai (2015) indicated that ERM structure practices have a significant impact on performance measured as operating margin. To further support the above notion, Kpodo and Agyekum (2015) found a positive correlation between risk culture and organizational performance in the

Banking Industry in Ghana. Besides, Wood and Lewis (2018) found that communication, awareness, accountability as strong pointers of Caribbean Development Bank's risk culture which contributed to improved uniformity of risk management knowledge, coordinated collation of risk data and better appreciation of risk management issues. Consequently, risk management practices were enhanced within Caribbean Development Bank. Moreso, Olayinka, Emoarehi, Jonah, and Ame (2017) found that ERM structure practices had a positive a significant effect on financial performance on firms listed in the financial sector of Nigeria. Lastly, Florio and Giulia (2016) observed that entities with progressive stages of ERM implementation had greater performance, in term of financial performance and market valuation.

In respect to ERM governance and organizational performance, the results showed that the standardized coefficient beta and p value of ERM governance were positive and significant ( $\beta = 0.32$ ,  $p < 0.05$ ). Thus, the null hypothesis  $H_{02}$  was rejected and the study accepts the alternative hypothesis that ERM governance has a positive and significant effect on the organizational performance of state corporations. This indicates that, for each unit increase in ERM governance, there is 0.32-unit increase in organizational performance. ERM governance entails transparency, responsibility, fairness and accountability which improves firm performance (Shad & Lai, 2015). The findings in this study are supported by John and Shundil (2015) report that effective risk governance is essential for organizational performance. The results also coincide with Nahar et al. (2016) results that there is a significant relationship between risk governance and bank performance. In the same way, Ping and Muthueloo (2017) found that implementation of ERM governance has a significant effect on firm performance. Additionally, firm size, monitoring by BODs and firm complexity were found to significantly influence the relationship between ERM implementation and firm performance. Likewise, Lukianchuk (2015) found positive effect of ERM governance on performance of Small and Medium Enterprises. In addition, Erin, Asiriwa, Olojede, Ajetunmobi, and Usman (2018) observed that the risk governance variables except Centrality of CRO had a positive and significant impact on the performance of banks listed in Nigeria. Furthermore, in respect to ERM process and performance, p-value is significant ( $p < 0.05$ ), and the beta value of ERM process was positive ( $\beta = 0.25$ ). Therefore, the null hypothesis  $H_{03}$  was rejected and the alternative hypothesis accepted. The findings indicate that ERM process has a positive and significant effect on the organizational performance of state corporations. Consequently, for each unit increase in ERM process, there is 0.25 unit increase in organizational performance. Finally, the effect of ERM process is shown by the t-test value of 3.57 which implies that the effect of ERM process surpasses that of the error by over 3 times. The results of this study agrees with those of Kisaka and Musomi (2015) who found that risk identification, risk analysis, risk assessment and risk management tools have a significant positive influence on the performance investment firms. In a similar vein, Kiage and Namusonge (2016) established that involvement of project manager in risk analysis, risk identification and found that risk analysis influences the performance of Kenyan firms in the telecommunication sector. In addition, Ping and Muthueloo (2017) elucidated that that there is a positive relationship between risk management process and firm performance. The results concurs with those of Gordon et al. (2009) which indicated that ERM process increases firm performance. Grace, Leverty, Phillips, and Shimpi (2010) also found a significant increase in cost efficiency and it resulted to revenue efficiency after implementation of ERM process. All the study test variables explained 67% variation of organizational performance of state corporations. This indicates that in view of the three independent variables, there is a likelihood of predicting organizational performance ( $R^2 = 0.67$ ). Further, coefficient of determination was significant as evidenced by F ratio of 64.46 with p value  $0.000 < 0.05$ . This was also supported by change of R squared of 64.2% ( $R^2\Delta = .642$ ) indicating that there is a significant relationship between ERM practices (structure, governance and process) and organizational performance by 64.2%.

Table-3. Regression model for testing direct effect.

| Variables                  | Unstandardized coefficients |            | Standardized coefficients |      |      | Collinearity statistics |      |
|----------------------------|-----------------------------|------------|---------------------------|------|------|-------------------------|------|
|                            | B                           | Std. Error | Beta                      | T    | Sig. | Tolerance               | VIF  |
| (Constant)                 | 0.71                        | 0.22       |                           | 3.28 | 0.00 |                         |      |
| ERM structure              | 0.27                        | 0.07       | 0.30                      | 4.06 | 0.00 | 0.32                    | 3.16 |
| ERM governance             | 0.33                        | 0.07       | 0.32                      | 4.59 | 0.00 | 0.35                    | 2.88 |
| ERM process                | 0.21                        | 0.06       | 0.25                      | 3.57 | 0.00 | 0.35                    | 2.86 |
| Model summary              |                             |            |                           |      |      |                         |      |
| R                          |                             | 0.82       |                           |      |      |                         |      |
| R square                   |                             | 0.67       |                           |      |      |                         |      |
| Adjusted R square          |                             | 0.66       |                           |      |      |                         |      |
| Std. error of the estimate |                             | 0.41       |                           |      |      |                         |      |
| Durbin-Watson              |                             | 2.00       |                           |      |      |                         |      |
| ANOVA (F stat)             |                             | 64.46      |                           |      |      |                         |      |
| ANOVA (F prob)             |                             | 0.00       |                           |      |      |                         |      |



## 5. Conclusion and Recommendations

Based on the findings, ERM structure improves performance of State Corporations. With respect to the organization structure, key areas of duty have been defined and responsibility established. Likewise, the task of power and duty clearly builds up limits of power and how much people and groups are approved to act to address issues, tackle issues and make the most of exhibited opportunities. Besides, individuals know how their activities interrelate and add to accomplishment of the organization's objectives. However, the SCs are yet to have dedicated people who act as risk identification champions and have training on ERM to its employees.

The study is indicative of a positive and significant relationship between risk structure practices and organizational performance of state corporations. This study contradicts the few studies that have found no statistically significant link between the risk structure of organizations and their performance. The study therefore, offers new insights on the potential of risk structure practices making it plausible for the executives in SCs to comprehend, communicate risk factors as well as handle the challenges inherent in their operations. The eventual outcome is an improvement in their overall performance. The implication is that SCs with formal policies and ERM practices tend to have an edge over other firms that are yet to implement ERM practices.

Risk structure practices are key in reducing SCs exposure to risk, cost in operations thereby facilitating an improvement in their overall performance. Moreover, the firms need to capitalize on personnel that act as risk identification champions and ensure that employees are trained on ERM. Further, SCs need to adopt an approach that is effective in determining the root cause of risk so that each risk is identified right from the onset and the best cause of action is determined.

The methodology that has been selected to realize the research objectives was restricted to questionnaires. Thus, future research can build on this study by investigating enterprise risk management practices in diverse sectors using both quantitative and qualitative approach. Also, a replication of this research on different industries would provide data for comparison. Lastly, further research works should establish the mediating effect of intellectual capital on the relationship between ERM practices and organizational performance.

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