

AUDIT ENVIRONMENT AND INTERNAL AUDIT EFFECTIVENESS AS ANTIDOTE TO RISK MANAGEMENT WITHIN STATE-OWNED ENTERPRISES FOR EMERGING MARKETS

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ABSTRACT

Global demands for improved governance practices have brought about tremendous changes in internal audit function. This study examines the factors associated with internal audit effectiveness playing a pivotal role in addressing the challenges facing the economic and productive state-owned enterprises in Namibia. Using a sample of selected diverse economic and productive state-owned enterprises, a quantitative approach was employed to conduct the research and data analysed via the variance based structural equation modeling, and the results suggest that internal audit effectiveness could positively impact on risk management practices of the economic and productive state-owned enterprises given a conducive internal audit environment. This study will augment the understanding of IA practices in the country and contribute to knowledge enhancement on the continent. The recommendations, therefore, have implications for policymakers, regulators and researchers in assessing the effectiveness of internal audit function in advancing the governance practices of the economic and productive state-owned enterprises.

Keywords: Internal Audit Effectiveness, State-Owned Enterprises, Namibia, Business Environment, Risk Management.

JEL Classifications: G32, M42.

Data Availability: Data are available from the public sources cited in the text.

INTRODUCTION

This study provides a critical analysis of the role that effective internal audit (IA) plays to ameliorate the risk management imperatives of the economic and productive state-owned enterprises (EPSOEs) in Namibia. Internal audit has, of late, gained renewed attention globally owing to its growing role in contemporary corporate governance (CG) (Christopher et al., 2009) and described as the most critical tool in the quality management system (QMS) (Strouse, 2009). In their research on internal audit function (IAF) in Australia, they noted that IAF provides a value-added assurance and consulting service in business organisations. Moreover, when successfully implemented, IA serves as the cornerstone upon which effective CG is built (IIA Professional Guidance, 2002). Ruud (2003) quoted in Christopher et al. (2009) has summarised the vital role of IA as a primary support function for management, the board of directors, audit committee and shareholders in contemporary business arena, which to a considerable extent are

reinforced by legislation and governance codes such as King Report IV (2016), the UK Corporate Governance Code (2019), the NamCode 2014) and the Sarbanes Oxley Act (2002).

The concept of effectiveness, generally, signifies the ability to accomplish desired or planned outcomes (Barišić & Tušek, 2016). It is associated with the accomplishment of IA goals or the reason for its existence, which impacts on the performance of the auditees (Mihret & Yismaw, 2007; Dittenhofer, 2001). Although evaluation of IA effectiveness is essential, due to the complexity of the IAF, the criteria for measuring effectiveness is equally complex. Barišić and Tušek (2016) regard IA as a change agent and its recommendations are meant to support management performance and improve risk management.

The fast-changing business environment has made IAF effectiveness immensely relevant and timely. Given that the IAF effectiveness is under-researched, especially in the SOE sector, it has motivated the contribution of this study to contemporary body of knowledge a necessity. The study focuses on SOEs - a sector that is well documented in literature as the backbone of the economics of many developing countries (Udeh & Nwadiolor, 2016; OECD, 2015; Khongmalai et al., 2010; Gills, 1980) such, as Namibia. The global Covid-19 pandemic and the sharp economic downturn coupled with the dwindling external funding opportunities are some of the risks confronting the EPSOEs. This requires the intervention of effective IAF to help management and oversight bodies to mitigate risk management. This study is perhaps the initial research on IA effectiveness in the Namibian context. Therefore, it will contribute to knowledge enhancement in this specialised area of study and augment the understanding of IA practices in the country and holistically in Africa.

The paper is structured in 5 sections, with the introduction as the first. The second section provides a review of the literature and framework of the research. Section 3 outlines an explanation of the research methodology used. Section 4 presents the results and analysis, followed by a discussion. Finally, section 5 presents the conclusions and recommendations and identify areas for future research.

LITERATURE REVIEW

This section addresses the empirical, conceptual review and theoretical framework, and hypothesis development of the study.

Empirical and Conceptual Review

Justification for SOEs: State-owned enterprises (SOEs) have a fascinating economic might that continues to play an essential role in the growth and development of nations (Szamoszegi & Kyle, 2011; Meissner et al., 2019; Bruton et al., 2015). They are formed to serve an essential economic purpose by delivering strategic goods and services to the populace and enhance their living standards (Radasi & Barac, 2015; Sturesson et al., 2015). State-owned enterprises substantially contribute to the gross domestic product (GDP) (Meissner et al., 2019) and provide strategic goods and services including the supply of electricity and rural electrification, transport and telecommunication, water and sanitation (Radasi & Barac, 2015). They are anticipated to be engines of social transformation (Edoun, 2015), looking beyond profit and loss considerations, and taking into account their purpose, mission and objectives with regards to public service and societal outcomes. Sturesson et al. (2015) contend that SOEs potentially create value by delivering outcomes that are beneficial to societal goals such as healthy living and long-term public good. Given the right context, therefore, SOEs are likely to

remain an essential instrument in the economic development of many developing countries for public value creation (Sturesson et al. (2015).

Audit environment: The business environment in which the SOEs operate is characterised by dynamic changes orchestrated by advancement in technology, rivalry for investors' money, the competition to access the global markets and multifaceted financial instruments (Radasi & Barac, 2015; Brauns, 2016). These challenges are compounded by corruption and fraudulent practices at the top hierarchy of the SOEs (Coetzee, 2018), unsustainable production and consumption patterns (Kopnina, 2017) and the co-existence of several different stakeholders with contrasting objectives and complexities (Arena & Serens, 2015). Thus, the business environment is increasingly concerned about the vulnerability of their organisations and whether they are adequately protected. Management now more than ever needs IAF to protect the organisation (Deloitte, 2012) as corporate leaders continue to demand that IAs play a more active role in the organisation (Alvero & Errington, 2019). The purpose of IA, according to the Chartered Institute of Internal Auditors (CIIA) (2019) is to offer independent assurance that an organisation's risk management, governance and internal control processes are operating effectively. By considering broader issues such as the organisation's reputation, growth and its impact on the environment, the IAF deals with problems that are fundamentally important to the survival and prosperity of the organisation. They enable the organisations to succeed through their assurance to the board and management on how well the systems and processes in place are doing and help to improve them through their consulting services (Deloitte, 2012). Deloitte further, notes that the IAFs role in risk management by way of preventing, detecting and investigating inappropriate activities, increasingly contributes to reducing the economic uncertainties in the business environment; and, therefore, consider IA as the organisation's critical friend, who is ready to champion best practices, challenge the status quo and be a catalyst for helping organisations achieve their objectives.

The business environment should enable the IAF to operate effectively. It should create a congenial atmosphere that will enable top management support (Alzeban and Gwilliam, 2014; Mihret, 2010; Cohen and Sayag, 2010), improve the scope for IA work (Mihret & Yismaw, 2007), maintain independence and objectivity (Baharud-din et al., 2014); and enhance IA and external audit (EA) relationship (Alzeban & Gwilliam, 2014). These are some of the factors that impact IA effectiveness and improve organisational performance.

Risk Management: Risk management is considered as one of the most critical objectives in business organisations (Drogalas & Siopi, 2017). Berg (2010) explains risk management in Radasi and Barac (2015:96) as “a systematic approach to setting the best course of action under uncertainty by identifying, assessing, understanding, acting on and communicating risk issues”. Existing literature supports the view that in this fragile business environment, IA has a vital role to play in monitoring organisational risk profile and identifying areas for improving risk management processes (Drogalas & Siopi, 2017; Radasi & Barac, 2015).

Internal audit effectiveness: Internal audit has emerged as a force to reckon with since the global corporate scandals such as Enron, WorldCom, Parmalat, Lehman Brothers and others have accelerated its growing role in corporate governance (CG) (Christopher et al., 2009; Tesema, 2018). Internal audit effectiveness is of common interest to many organisations and stakeholders (Udeh & Nwadiakor (2016) as it plays a crucial role in helping organisations accomplish their objectives and protect their assets (Alqudah et al., 2019). Research related to the exploration of IA effectiveness and its determining factors are also recent (Barišić & Tušek, 2016; Radasi & Barac, 2015; Baharud-din et al., 2014; Endaya & Hanefa, 2013; Cohen & Sayag,

2010; Mihret & Yismaw, 2007). The pioneering work of Arena and Azzone (2009) in Italy is recorded as one of the first few empirical studies that stimulated interest in the study of IA effectiveness.

The findings of a study by Lenz et al. (2017) in Germany on IA effectiveness using a Multiple case study research involving chief audit executives and senior management, indicate that the interaction between IA and top management is a crucial determinant of IA effectiveness. This is associated with the overarching effectiveness of the organisation and where the organisational policy authorising IA is favourable, and top management support the IA activities, the IAF will necessarily be effective. A similar study by Mihret and Yismaw (2007) on IA effectiveness in the Ethiopian public sector, shows that the interplay of four key factors namely, top management support, IA quality, traits of the auditee and the tolerance of the business environmental setting in which IA operates are what enables IA department achieve its purpose. Further, they observe that IAF capability to provide quality findings and recommendations and top management assurance to implement and support them with resources is crucial in attaining audit effectiveness. Hence, they view IA effectiveness as an active progression that is successively fashioned by the interaction of the four factors indicated above. Alqudah et al. (2019), like previous researchers such as Baharud-din et al. (2014) and Lenz and Hah (2015), used compliance with the International Standards for Professional Practice of Internal Auditing (ISPPA) to measure IA effectiveness and argue that effective IA will improve the efficiency of the governance practices, risk management and control; and assist management to contain fraud, irregularities and contribute to accountability in business organisations (Endaya & Hanefah, 2016; Ismael & Roberts, 2018).

Achievement of organisational objectives and protection of assets are fundamentally made possible by effective IAF through its value addition role and enable organisations to advance their operations in risk management, fraud detection and prevention, and safeguard assets (Abuazza et al., 2015). Unfortunately, however, IAF in the developing countries, particularly in Africa, is generally still inadequate and remains unexplored to the fullest. Research in this field is comparatively inadequate and remains under-researched (Mihret et al., 2010; Mihret & Yismaw, 2007; Spraakman, 1997). This gap is critical and must be contained. The main purpose of this study, therefore, is to extend the few existing works of literature in the field provided by the researchers in Africa (Radasi & Barac, 2015; Mihret & Yasmew, 2007) to contribute to the literature in the field and provide an understanding of the concept of IA effectiveness generally in developing countries.



FIGURE 1
CONCEPTUAL FRAMEWORK OF THE STUDY

By doing that, it will shape the understanding of the prospects and challenges faced by IAF in an attempt to contain the risk management imperatives of the EPSOE sector in Namibia. Prior researchers of different persuasions have viewed IA effectiveness from the IAF ability to plan, perform and communicate useful findings (Xiangdong, 1997; Spraakman, 1997; Dittenhofer, 2001) quoted in Mihret & Yasmaw (2010).

The model adopted in this study considers six potential factors - top management support, Independence and objectivity (IAO), risk management (IARM), IA and EA relationship (IAEAR), the scope of IA work (SIAW) and others planning, reporting and follow-ups (ORPF) that influence IA effectiveness in Namibia as shown in the conceptual framework in this study in Figure 1.

Theoretical Review and Hypothesis Development.

Several researchers have used different theories to explain IAF (Alqudah et al. 2019). For instance, Agency theory (Christopher et al., 2009; Swinkels, 2012), Institutional theory (Al-Twaijry, 2003), Resource-based theory (Alqudah et al., 2019), Stakeholder theory (Erasmus & Coetzee, 2015), Stewardship theory (Badara & Saidin, 2013). Although, the Agency Theory has been criticised and is regarded as insufficient to deal with IA research in varied views and diverse contexts for the basis for IA effectiveness (Mihret, 2010); it is still the most critical theoretical grounding for many previous scholars on IAF (Alqudah et al., 2019). The agency theory is anchored on the premise of separation of control and ownership in business organisations, articulated by Jensen & Mackling (1976) cited in Christopher et al. (2009). It has its origins in the positivist group of theories, which has been explained as an association between two parties called principal and agent (Adams, 1984; Wacker, 1988; Ittonen, 2010). Christopher et al. explain further that, the principals (shareholders & owners) engage the board and management as agents in whom control is vested to representing their interest in the business environment. The management is appointed to manage the organisation with some delegated decision-making authority (ICAEW, 2005) on behalf of the board. According to them, this division of labour is helpful in the promotion of efficient and productive economy, but the theory creates agency problem, which focuses on the conflict between the principals and the agents. The principal's interest is to maximise the wealth of the organisation in the long run but conflicts with those of the agent, which tilts towards the maximisation of their selfish interest in the short run (Almeida, 2014).

The unpredictable behaviour of management and information asymmetry compound the principal's inability to control management in this behavioural logic (Almeida, 2014). Information asymmetry models assume that the agents are more conversant with the activities of the business than the principals and have information which they are unwilling to share (Sceral et al., 2018). A prior study by Jensen & Meckling (1976) and later Wilkinson (2013) in support of this view, attribute the agent's failure to divulge critical information to the principal as the reason for the engagement of internal auditors to mitigate the agency problem. Although the EA assures the shareholders on the quality of the financial statements, the board of directors depend on the IAF for assurance that the business environment is in good shape (Christopher et al., 2009).

This study draws on the agency theory to examine the effectiveness of IAF required to explain the business environment in which they operate. Concerning the variables considered in the present study as factors affecting the IA effectiveness in the risk management of the Namibia EPSOE sector, the agency theory is the most pertinent for this study.

This paper evaluates the research gaps by critically analysing the empirical literature on IA effectiveness, synthesising the areas in which the business environment impacts on the quality of IAF to mitigate the risk management imperatives of the EPSOEs in Namibia. This theoretical position provides the basis for the formulation of the hypotheses of the study, which are as follows:

H1: Business environmental factors influence the quality of internal audit work.

H2: Internal audit effectiveness mitigate the risks of EPSOEs in Namibia.

H3: Internal audit effectiveness mediate the effects of the business environment on risk management.

METHODOLOGY AND DATA

The study adopted a cross-sectional design with the aim of assessing the impact of internal audit environment on audit effectiveness and the eventual risk management of the Namibian EPSOEs, measured audit environment, audit effectiveness and risk management. Taken from Rindfleisch et al. (2018), longitudinal design is a well-designed cross-sectional survey that was considered suitable for this study. This survey method has yielded robust results in similar studies (Baccarini, 2004; Jackson, 2002; Menolascina et al., 2008).

Participants were selected for this study consisted of auditees, audit committee (AC) (chairpersons or nominees), chief audit executives (CAE) and internal auditors. They were regarded as knowledgeable individuals who possess the necessary information and background needed for the purpose of this study and can answer the questionnaire. Neuman (2014) characterises best survey questions as “being integrated whole with the questions flowing smoothly from one to another” (pp. 326), meaningful and clear in the minds of respondents to give valid and reliable outcomes and should be constructed after a careful review of available literature, consultations with experts and with the researcher's personal knowledge and experience. In line with this requirement, some of the questionnaires for this study have been adapted from existing instruments (for example Mihret, 2010 with permission) measuring IAF and the researcher's own additional questions to solidify the validity and reliability of the outcomes.

The questionnaire on the evaluation of IAF was measured on a 5-point Likert-type scale ranging from “strongly agree” (coded as 5) being the highest and “strongly disagree” (coded as 1) being the lowest. It is designed to evaluate how strongly respondents agree or disagree with statements on a five or seven-point scale (Sekaran, 2003). Sekaran further notes that Likert scale is more sophisticated than the other scales such as nominal or ordinal. According to her, by allowing the measurement of any two points on a scale, the Likert scale enables the researcher to compute the mean and standard deviations of the responses on the variables – thus making the measurement of magnitudes of differences in the preferences of the individuals possible. Likert scale has been employed by several researchers in similar studies that applied statistical analysis. For example, Mihret (2010) used a 5-point Likert type scale to test his hypothesis on IA effectiveness; Abdullah (2014); Kalbers & Fogarty (1995); Koo & Sim (1999) employed the same scale to test their hypothesis in redefining IA performance in CG, consequences of internal auditor professionalism and a study of auditors' role in Korea respectively.

The survey questions, which are 30 in number, are classified under six overarching categories made up of an average of five questions with each four of the categories relating to

internal audit environment and the other two corresponding to audit effectiveness and risk management respectively. The participants were made to indicate their opinion on IAF in their companies in the six categories which broadly covered topics such as organisational policy authorising IA² cooperation between IA and auditees, IA independence and objectivity, IA and risk management, IA effectiveness and scope of IA work.

Sample and Data Collection

The number of SOEs in Namibia are 72 and EPSOEs account for 28. These 28 EPSOEs were taken as the whole population of the study. Saunders et al. (2009) justify this stance when they argue that a researcher can examine the whole population if it is of a manageable size and considers the use of the entire population in a study as census. The rationale for using the entire population in this study is that, a population of 28 EPSOEs is considered a reasonable size to fit the use of census. Census was used by Sawalha (2011) in his studies on a Jordanian case study on business continuity management and strategic planning for the same reason advanced for this study.

Being a quantitative study, a closed-ended questionnaire survey method was used to collect the data. Besides, questionnaire offers the advantage of obtaining data more efficiently with regards to time, energy and cost (Sekaran, 2003). This involved the administration of the survey questionnaire to all the respondents. Selected EPSOEs employees were sampled, having obtained permission from the Ministry of Public Enterprise, using the purposive sampling method. Purposive sampling method allows the population sample to be selected based on the expectation that they can serve the purpose of the research (Taherdoost, 2016). With purposive sampling it was possible to choose respondents on purpose to provide the requisite data for the study. The selection criteria ensured that individual in the sample has to be an employee of an EPSOEs.

Both the online and paper-based survey were employed in administering the questionnaires. Given the challenges with the response rate of online survey, several telephone calls for responses were made to follow-up some of the delays experienced. The online survey questionnaire was developed in Google Forms. Google Forms provide a user-friendly environment for administering surveys and allow the capturing of the participant's responses, which were automatically captured in Excel spreadsheet and made ready for analysis. Out of the 224 questionnaires dispatched, a total of 150 were returned and 131 were found useable. A 58% response rate is considered quite good for a survey-based data collection such as this. For instance, Lenz (2013) obtained 34%, and Cohen & Sayag (2010) 37% usable response rate in similar studies.

Descriptive Results

A total of 131 questionnaire responses representing 58% were usable and analysed. These were reduced to 123 final observations after accounting for participants that did not answer the questions completely. Majority of the participants were male (n=89, 67.9%), and females were (n=41, 31.3%). The age distribution ranged from 30 to over 60 years with the majority in the 41 to 50 years' bracket (47.3%). The participants work experience ranged from below 5 to over 21 years with majority in the 6 to 10 years (44.3%) bracket. Approximately 45% of the participants were general managers, internal auditors 22.1%, and CAEs 21.4%, constitute the majority of about 89% signifying knowledgeable participants. The rest included audit committee members

3.8, CEOs 1.5 (current & former), external auditors 0.8 and others 5.3. The majority of the participants either have masters (n=57, 43.5%) or bachelor's degrees also with the same number (n=57, 43.5%), followed by diploma, PhD and certificate at 5.3%, 4.6% and 0.8% percentages respectively. A relatively very few participants held professional qualifications. Only 3 IA were Certified Internal Auditors (CIA), and 5 CAEs had Chartered Accountants (CA) qualifications, constituting only 14% certification rate. Despite the insignificant number with professional certification in audit and accounting, the profiles of the respondents in terms of qualification and experience were considered suitably adequate for the information required for the study.

The mean and the standard deviation in Table 1 indicated that the final observations engage the questions well as for instance the minimum mean value and standard deviation are 3.333 and 0.634 corresponding to EECREI and DICOA respectively. The data is normally distributed as both the skewness and the kurtosis are largely within the threshold of the + or - 2.5 recommended in literature.

Items	Factor loading	Mean	SD	Kurtosis	Skewness	N
AOAS	0.70	3.675	0.681	-0.28	0.048	123
AOPD	0.75	4.000	0.721	3.432	-1.316	123
ATOR	0.80	3.984	0.754	0.276	-0.548	123
CICACWAC	0.69	3.463	0.998	-0.297	-0.394	123
CIRFAWI	0.73	3.707	0.917	1.033	-0.918	123
CISRAC	0.87	3.699	0.901	0.791	-0.85	123
DICOA	0.80	3.854	0.634	1.233	-0.646	123
DIHSE	0.68	3.667	0.813	1.712	-1.058	123
DIUORE	0.79	3.789	0.829	0.612	-0.712	123
ECBIEE	0.68	3.431	0.929	0.301	-0.658	123
EEARIW	0.75	3.488	0.896	-0.115	-0.100	123
EECREI	0.78	3.333	0.862	0.301	-0.552	123
EEPIAFO	0.82	3.480	0.736	1.054	-0.547	123
EWIEES	0.77	3.512	0.868	0.085	-0.377	123
FEIRAC	0.67	3.659	0.763	0.659	-0.55	123
FEIRP	0.64	3.780	0.738	2.574	-1.094	123
FIAERI	0.80	3.829	0.783	1.363	-0.922	123
FIRBI	0.72	3.650	0.662	0.252	-0.486	123
HIAMCAP	0.67	3.805	0.833	0.887	-0.900	123
HIDWAAF	0.76	3.894	0.719	0.742	-0.635	123
HIFMEICA	0.83	3.772	0.774	0.632	-0.858	123

Data Exploration

Exploratory Factor Analysis (EFA) was conducted in SMART-PLS in relation top management supports (AOPAI), independence and objectivity (CIAO), Internal and External Auditors Relationships (EIAEAR), Scope of Internal Audit Work (GSIAW), Internal Audit Effectiveness (FIAE), and EPSOEs Risk management (DIARM) providing six latent constructs. These four are consistent with the internal audit/business environment where internal audit operates and one each of IAE and ERM respectively. Exploratory factor analysis enables the establishment of the latent indicators which adequately explains variation in the latent constructs.

Many studies in the literature favoured 200 sample size as the reasonable absolute minimum sample size required to conduct factor analysis. However, provided that the factor loadings are high, the number of factors is low, and the number of variables is high. Pearson & Mundform, (2010) and de Winter et al. (2009) maintain that quality results can be obtained from sample sizes below 50. Based on this argument the sample size of 123 with three latent construct, 6 variables, and high loadings (mostly 0.6 and above contained in Table 1 above) was considered sufficient for exploration.

Reliability and Validity

To test the internal consistency for all the observed variables used to measure the latent construct, Cronbach's alpha coefficient was estimated ranging from 0.72 for AOPAI to 0.82 for EIAEAR, which are greater than the cut-off point of 0.70. Furthermore, both the discriminant and the convergent validity are found to be above the threshold. The composite reliability (CR) is above 0.70; the average variance extracted (AVE) is above 0.50, the AVE and the diagonal are expected to be greater than the correlation. Hence, convergent and discriminant validity are observed as evidence which convergent is AVE above 0.5, and the discriminant being the square root of AVE greater than correlations) and reliability (evidenced by the CR value above 0.70). This information is contained in Table 2 below.

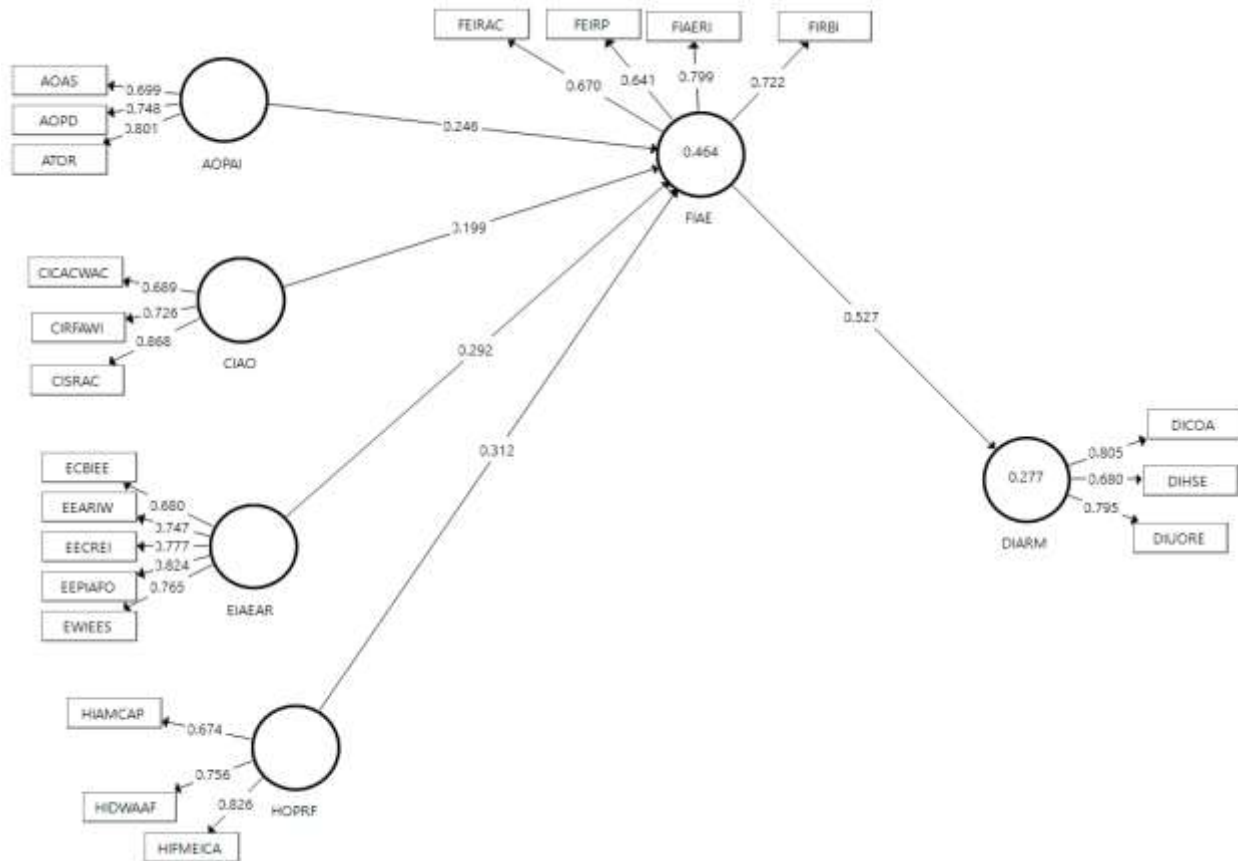
	α	CR	AVE	AOPAI	CIAO	DIARM	EIAEAR	FIAE	HOPRF
AOPAI	0.72	0.79	0.56	0.750					
CIAO	0.75	0.81	0.58	0.404	0.765				
DIARM	0.74	0.80	0.58	0.421	0.227	0.762			
EIAEAR	0.82	0.87	0.58	0.110	-0.036	0.303	0.760		
FIAE	0.78	0.80	0.50	0.499	0.387	0.527	0.349	0.710	
HOPRF	0.73	0.80	0.57	0.448	0.315	0.322	0.118	0.520	0.755

Results and Analysis

Having been satisfied with the reliability and validity of the analysis, the path analysis was obtained from SMART-PLS. With this the hypotheses of the study tested in Figure 2³ with the P-values in Table 3 below. To test hypothesis 1: business environment influencing audit effectiveness, four variables; AOPAI, CIAO, EIAEAR and HOPRF were regressed against internal audit effectiveness, FIAE. AOPAI, top management support, was found to be significant to explain internal audit effectiveness, with the coefficient $\beta = 0.246^{***}$ (P-value <0.0001). In other words, top management providing a conducive environment for internal audit activity will positively enhance their effectiveness by 24.6%. In the same vein, with regard to independence and objectivity, CIAO positively influence IA effectiveness with a coefficient, Beta = 0.199** (P-value <0.010). Further, having a business environment that engenders the objectivity and independence of the internal audit will increase their effectiveness by 19.9%. Both the scope of audit work, GSIW and IA and EA relationship (EIAEAR) are positive to influence internal audit effectiveness evidenced by coefficient $\beta = 0.0312^{***}$ (P-value <0.0001) and $\beta = 0.292^{***}$ (P-value <0.0001) respectively. These relationships imply that, where the scope of internal audit work is well defined, audit effectiveness tends to thrive by 31.2%, the same way that having a

cordial relationship between internal and the external auditor of the EPSOEs will increase their effectiveness by 29.2%.

The total indirect effects of the business environment on risk management further shed light into these results. All the variables AOPAI, CIAO, EIAEAR and HOPRF are significant to influence the risk management of firms. AOPAI will improve risk management by 12%, CIAO by 10.5%, EIAEAR by 15.4% and HOPRF by 16.4%. Overall, the results provide evidence to show that business environment affects the delivery of internal audit function of an organisation. This is consistent with a priori and the hypothesis of this study.



**FIGURE 2
PATH ANALYSIS DIAGRAM**

Model fits indices: SRMR 0.0652, NFI 0.981.

With respect to hypothesis 2, the influence of internal audit effectiveness on the risk management of EPSOEs was tested. The results provide evidence at $\beta = 0.527^{***}$ (P-value <0.0001) to show that the effectiveness of internal audit is fundamental for risk management of organisations. So much so that internal audit effectiveness has the capacity to positively influence risk management by 52.7%. This result is a confirmation of theory and consistent with the hypothesis of this study.

**Table 3
PATH COEFFICIENTS**

Latent variables	Coeff	T Stats	P Values
AOPAI -> FIAE	0.246	3.411	0.001
CIAO -> FIAE	0.199	2.573	0.010
EIAEAR -> FIAE	0.292	4.539	0.000
FIAE -> DIARM	0.527	6.834	0.000
HOPRF -> FIAE	0.312	3.652	0.000
Total indirect effects			
AOPAI -> DIARM	0.130	2.723	0.007
CIAO -> DIARM	0.105	2.516	0.012
EIAEAR -> DIARM	0.154	3.797	0.000
HOPRF -> DIARM	0.164	3.043	0.002
Specific indirect effects			
AOPAI -> FIAE -> DIARM	0.130	2.723	0.007
CIAO -> FIAE -> DIARM	0.105	2.516	0.012
EIAEAR -> FIAE -> DIARM	0.154	3.797	0.000
HOPRF -> FIAE -> DIARM	0.164	3.043	0.002
Total effects			
AOPAI -> DIARM	0.130	2.723	0.007
AOPAI -> FIAE	0.246	3.411	0.001
CIAO -> DIARM	0.105	2.516	0.012
CIAO -> FIAE	0.199	2.573	0.010
EIAEAR -> DIARM	0.154	3.797	0.000
EIAEAR -> FIAE	0.292	4.539	0.000
FIAE -> DIARM	0.527	6.834	0.000
HOPRF -> DIARM	0.164	3.043	0.002
HOPRF -> FIAE	0.312	3.652	0.000

Finally, the specific indirect effects results provide evidence for testing the hypothesis 3 of this study. The evidences suggest that internal audit effectiveness partially mediate the influences of AOPAI, CIAO, EIAEAR and HOPRF on DIARM as the path directly from these variables to DIARM and through FIAE to DIARM are positive and significant. The implication suggests that business environments does influence firms risk management directly and also through internal audit. It further observed that of the total indirect effects from business environment to risk management only approximate the effects of internal audit on risk management corroborating the need for an internal audit. Hypothesis 3 is therefore confirmed with the a priori in this study. What follows is the discussion of these results in the context of literature to inform implications in policy.

DISCUSSION OF FINDINGS

The rising need for the IAF in the last few decades is an indication of the increasing demand for this service in all organisations to improve their governance mechanisms and enhance productivity. Unfortunately, however, researchers have paid little attention to this significant function (Cohen & Sayag, 2010; Christopher, 2019) and as noted by Eden and Moriah (1996) cited in Cohen and Sayag, while the use of IAF has not been doubted, its influence has not been evaluated scientifically. The major preoccupation of this study, therefore, is the place of IA in mitigating the risks faced by the Namibian EPSOEs.

The descriptive statistics results show that majority of the respondents were males (70%). This confirms the research findings that the public sector organisations in many developing countries are male dominated, corroborating Alzeban & Gwilliam (2014) study in Saudi Arabia,

where all their respondents were male. Musah et al. (2019) had similar results in Ghana where majority of their respondents were also male (70%). This result, however, contradicts the findings of Baharu-din et al. (2014) in their study in Malaysia, where majority of their respondents were females. The experience of the respondents was sampled for the study. The results indicated that majority fell within the 6 to 10 years' bracket (44.3%) signifying that the respondents have enough experience in their respective organisations and were capable of providing the required responses for this study. Regarding their standard of education, majority of them had university degrees (PhD, Masters and Bachelors) (91.6%) and about 14% had professional accounting/auditing qualifications (CIA or CA) in addition to the academic degrees, confirming the previous claim that the participants were suitably knowledgeable for the information required for the study. The main complication in this result indicating that only 14% of the respondents had professional accounting qualifications is worrisome. It can be assumed that IAs working in EPSOEs in Namibia like those in other developing countries, lack the necessary training and skills to support risk management imperatives of the sector. Example includes the case of South African public sector, where Schyf (2000) quoted in Alzeban & Gwilliam (2014) identified a lack of qualified IA personnel as an obstacle affecting IA performance in that country. This is confirmed by Mihret and Yismaw (2007), who also noted that lack of qualified staff weakened IA performance in Ethiopia. This study, therefore, suggests that the EPSOEs should employ qualified IA staff with professional training to support the risk management requirements of the sector.

The results of the conceptual findings of this study stress the significance of perceived top management support for IA effectiveness of IAF. As indicated in Figure 2 - Path analysis, the total average score displaying top management support for IA support is 24.6%, which shows a very strong support providing a conducive environment for IA activity to thrive and positively enhance their effectiveness. This conforms with the findings of extant literature on similar studies where researchers such as (Alzeban & Gwilliam, 2014; Mihret, 2010) found management support was essential for the success of IAF in the organisations they studied. This confirmed that Cohen and Sayag (2010) study in Australia when they demonstrated that top management acceptance and support for the IAF is a critical determinant of IA effectiveness. They also stressed that management support is very crucial to the operations and success of IAF and singled top management support as the most crucial of all the other determinants of IA effectiveness, given that providing organisational independence, hiring and planning the scope of IA work, etc. are all based on management decisions. The opposite is also true that the lack of management support for IAF is a major limiting factor affecting IA effectiveness' contribution to management risk (Usang & Salim, 2012).

The results show that the relationship between IA and EA of the EPSOEs is positive to influence internal audit effectiveness by 29.2%., displaying a positive and significant association. Brierley et al. (2001) cited in Musah et al. (2019) identified the absence of a good relationship between IA and EA as a significant limiting factor affecting the effectiveness of IAF; and that a positive relationship between the two will improve the effectiveness of IAF among the EPSOEs in Namibia. This outcome is exciting and unanticipated as in a previous study by Boamah (2019) in Namibia indicated that reliance of EA on the IAF is good for the health of any organisation. However, the lack of qualified IA in terms of education, skills and training in the EPSOEs in Namibia makes it difficult for EA to rely on their reports when auditing the organisations thereby exacerbating the costs of auditing. Further research is, therefore, required to provide deeper insight into this possibility.

The results of this study indicate strongly that independence and objectivity positively influence IA effectiveness. A business environment that accommodates objectivity and independence of the IAF will increase their effectiveness by 19.9% - implying that these factors are critical for the effective operation of IAF and that IAs need their independence from management to support the organisation better. This is confirmed by Alzeban & Gwilliam (2014), who suggested that the union of independence and objectivity constitutes the backbone of the IA profession. Moreover, the necessity for independence and objectivity of IAF is increasingly being propagated by several professional bodies and governance codes lately even though they are still employees of the organisation. That is necessary because without independence and objectivity, the organisation will not take the reports generated by IA seriously, and their recommendations will not be considered.

The results of the analysis show that the scope of internal audit work (SIAW) positively influence IA effectiveness implying that where the SIAW is well defined, audit effectiveness tends to thrive at 31.2%. We expected the SIAW and top management support to be positively associated. The work of the IAF enhances the image and development of the organisation. By evaluating the internal control system in place, checking the organisations' compliance with laws and regulations and reviewing the systems to safeguard the assets regularly, the IA is playing a vital role to remain productive and contribute to the risk management of the organisation. A similar result of a study by Asiedu & Deffor (2017) in Ghana found that the efficiency and effectiveness of the IAF impacts on the scope of work and materiality of systems and structures and that a poorly designed IA system can result in increased non-value-added costs in terms of several hours of wasted resources and an eventual breakdown of the assurance system of the organisation.

CONCLUSION AND RECOMMENDATIONS

This study explores the relationship among business and/or audit environment, internal audit effectiveness and the risk management of EPSOEs in Namibia. Existing literature on internal audit was reviewed to inform the three hypothesis that were tested. Data from 123 EPSOEs respondents were analysed using structural equation modelling implemented in SMART-PLS. The results provide evidences to show that business environment affects both internal audit effectiveness and firms risk management at the same time while internal audit effectiveness partially mediates the relationship between business environment and risk management in EPSOEs in Namibia. The study, therefore, concluded that both the business environment and internal audit are collectively and individually important for risk management in the Namibian EPSOEs. The motivation for internal audit has to be justified by their contribution to ensuring the risk of the business are further mitigated to enhance their performance.

It has been noted in this study that there is paucity of research on IA in Namibia in general and the EPSOE sector in particular. Research remains generally inadequate and unexplored (Musah et al., 2019; Mihret & Yismaw, 2007) creating a serious gap to be filled. Research should be expanded to increase knowledge in this specialised discipline. Again, IAs as indicated by Christopher (2019), do not as a rule need to be certified to comply with the required ethics on regulations. This shows that only 14% of the respondents were either chartered accountants (CA) or certified internal auditors (CIA). To overcome this constraint, policy-makers must improve the structural and functional arrangements of the IAF within the EPSOEs by enforcing mandatory adoption of IAF and engage professionally qualified IA staff capable of

continuously improve their educational levels and acquire the required certifications such as CIA and CIIA. That is the only way that the business environment will improve and also risk management enhanced. Future research directions could also be identified to examine the level and effectiveness of cooperation between IAFs and risk functions in SOEs.

Limitations

The limitation of this study is quite apparent. Research in most cases have limitations regarding the generalisability of the findings and the conclusions drawn. Even though the study does provide evidence of the factors that impact on IA effectiveness in mitigating risk management and provision of useful service to management in the Namibian EPSOEs. Further research is suggested to fully comprehend the level of effectiveness in the Namibian EPSOEs compared with the different sectors or industries with the view to finding the differences if any, and decisively define the variables touching IA effectiveness in Namibia.

ENDNOTE

1. Audit environment represents the business environment.
2. Organisational policy authorising IA (AOPAI) is used interchangeably as top management support (TMS).
3. See appendix 1 for the T-test version of the path regression analysis.

REFERENCES

- Alqudah, H.M., Amran, N.A., & Hassan, H. (2019). Factors affecting the internal auditor's effectiveness in the Jordanian public sector. *EuroMed Journal of Business*, *14*(3), 251-273.
- Almeida, B.J.M. (2014). The Agency Theory: The main foundational base to explain the auditing in Portuguese investor-oriented firms. *British Journal of Economics, Management & Trade*, *4*(2), 275-304.
- Alvero, K., & Errington, C. (2019). Internal audit's changing role in a changing technological environment. *Corporate Compliance Insight*. Retrieved from <https://www.corporatecomplianceinsights.com/category/audit/> [12 June 2020]
- Arena, M., & Sarens, G. (2015). Internal auditing: creating stepping stones for the future. *International Journal of Auditing*, *19*, 131-133.
- Badara, M.A.S., & Saidin, S.Z. (2013). Antecedents of internal audit effectiveness: A moderating effect of effective audit committee at local government level in Nigeria. *International Journal of Finance and Accounting*, *2*(2), 82-88.
- Baharud-din, Z., Shokiyah, A., & Ibrahim, M.S. (2014). Factors that contribute to the function of internal audit in public sector. *International Proceedings of Economics Development and Research*, *70*(24), 126-132.
- Barac, K., & Radasi, P. (2015). Internal audit in state-owned enterprises: Perceptions, expectations and challenges. *Southern African Journal of Accountability and Auditing Research*, *17*(2), 95-106.
- Barišić, I., & Tušek, B. (2016). The importance of the supportive control environment for internal audit effectiveness—the case of Croatian companies. *Economic research-Ekonomska istraživanja*, *29*(1), 1021-1037.
- Boamah, K. (2019). Impact of internal audit and corporate governance practices on the performance of state-owned enterprises in Namibia. Unpublished DTech thesis, Cape Peninsula University of Science and Technology. Cape Town - South Africa
- Brauns, M. (2015). The management of change in a changing environment - to change or not to change? Corporate Board: Role, Duties & Composition, *11*(3), 37-42
- Bruton, G.D., Peng, M.W., Ahlstrom, D., Stan, C., & Xu, K. (2015). State-owned enterprises around the world as hybrid organizations. *Academy of Management perspectives*, *29*(1), 92-114.
- Christopher, J. (2019). The failure of internal audit: monitoring gaps and a case for a new focus. *Journal of Management Inquiry*, *28*(4), 472-483.

- Christopher, J., Sarens, G., & Leung, P. (2009). A critical analysis of the independence of the internal audit function: evidence from Australia. *Accounting, Auditing & Accountability Journal*, 22(2), 200-220
- Coetzee, J.J. (2018). The role of the private sector in tackling corruption. Briefing Paper. *Institute for Public Policy and Research (IPPR)*, 1-35. Windhoek-Namibia.
- de Winter, J.C., Dodou, D.I.M.I.T.R.A., & Wieringa, P.A. (2009). Exploratory factor analysis with small sample sizes. *Multivariate behavioural research*, 44(2), 147-181.
- Drogalas, G., & Siopi, S. (2017). Risk management and internal audit: Evidence from Greece. *Risk governance & control: Financial markets & institutions*, 7(3), 104-110.
- Edoun, E.I. (2015). The impact of governance on state owned enterprises (SOEs) in Africa. *Mediterranean Journal of Social Sciences*, 6(1), 352.
- Endaya, K.A., & Hanefah, M.M. (2013). Internal audit effectiveness: An approach proposition to develop the theoretical framework. *Research Journal of Finance and Accounting*, 4(10), 92-102.
- Gillis, M. (1980). The role of state enterprises in economic development, Harvard Institute for International Development, Development Discussion Paper, No. 83, Cambridge 1980, 28ff.
- ICAEW. 2005. Agency theory and the role of audit. *Audit Quality Forum*. Retrieved from www.icaew.co.uk/auditquality
- Ismael, H.R., & Roberts, C. (2018). Factors affecting the voluntary use of internal audit: Evidence from the UK. *Managerial Auditing Journal*, 33(3), 288-317.
- Ittonen, K. (2010). A theoretical examination of the role of auditing and the relevance of audit reports. *Proceedings of the University of Vaasa*. Teaching aid series.
- Jensen, M.C., & Meckling, W.H. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Khongmalai, O., Tang, J.C.S., & Siengthai, S. (2010). Empirical evidence of corporate governance in Thai state-owned enterprises. *Corporate Governance*, 10(5), 617-634.
- Kopnina, H. (2017). Sustainability: new strategic thinking for business. *Environment, Development and Sustainability*, 19(1), 27-43.
- Lenz, R., Sarens, G., & Hoos, F., 2017. Internal audit effectiveness: Multiple case study research involving chief audit executives and senior management. *EDPACS*, 55(1), 1-17.
- Mahdawi, A.S.M.S., Ayedh, A.M.A., & Khairi, K.F.B. (2018). Effectiveness of internal audit. *International Journal of Science and Research (IJSR)*, 7(1), 1797-1803.
- Marks, N., 2013. How to assess the effectiveness of internal audit? *Internal Auditor*. Retrieved from <https://iaonline.theiia.org/how-to-assess-the-effectiveness-of-internal-audit>
- Meissner, D., Sarpong, D., & Vonortas, N.S. (2019). Introduction to the special issue on innovation in state-owned enterprises: Implications for technology management and industrial development - Guest editors. *Industry & Innovation*, 26(2).
- Menolascina, F., Bevilacqua, V., Ciminelli, C., Armenise, M.N., & Mastronardi G. (2008). Advanced intelligent computing theories and applications. With Aspects of Artificial Intelligence – A New Orthogonal Discriminant Projection, Volume 5227
- Mihret, D.G., & Yismaw, A.W. (2007). Internal audit effectiveness: An Ethiopian public sector case study. *Managerial auditing journal*, 22(5), 470-484.
- Musah, A., Gapketor, E.D., Anokye, F.K. (2019). Determinants of internal audit effectiveness in state-owned enterprises in Ghana. *Journal of Accounting and Management*, 8(1), 52-68.
- Neuman, W.L. (2014). Social research methods: Qualitative and quantitative approaches. 7th edition. Essex England: Pearson Educational Limited.
- OECD. (2015). OECD Guidelines on corporate governance of state-owned enterprises. 2015 Edition. *OECD Publishing*, Paris. Retrieved from <http://www.oecd.org/corporate/guidelines-corporate-governance-SOEs.html>
- Pearson, R.H., & Mundform, D.J. (2010). Recommended sample size for conducting exploratory factor analysis on dichotomous data. *Journal of Modern Applied Statistical Methods*, 9(2), 5.
- Rindfleisch, A., Malter, A.J., Ganesan, S., & Moorman, C. (2008). Cross-sectional versus longitudinal survey research: Concepts, findings, and guidelines. *Journal of marketing research*, 45(3), 261-279.
- Sekaran, U., (2003). Research methods for business: A skilled building approach. 4th ed. John. Willy & Sons.
- Sawalha, I.H. (2011). Business continuity management and strategic planning: The Case of Jordan. Unpublished PhD thesis, University of Huddersfield, UK
- Sceral, M., Erkoyuncu, J.A., & Shehab, E. (2018). Identifying information asymmetry challenges in the defence sector. *Procedia Manufacturing*, 19, 127-134.

- Strouse, R. (2009). Improving the Effectiveness of Internal Auditing: Steps to Quality Management System Success. *Quality Digest*. Retrieved from <http://www.quality digest.com>
- Sturesson, J., McIntyre, S., & Jones, N.C. (2015). State-owned enterprises catalysts for public value creation?' *PWC Technical article*, 1-48. Retrieved from <https://www.pwc.com/gx/en/psrc/publications/assets/pwc-State Owned-enterprise-psrc.pdf>.
- Taherdoost, H. (2016). Validity and reliability of the research instrument; how to test the validation of a questionnaire/survey in a research. How to Test the Validation of a Questionnaire/Survey in a research? *SSRN Electronic Journal*, 5(3), 28-36.
- Tesema, G. (2018). The role of internal audit practice to promote good governance in public institution of Ethiopia: The case of Jimma Zone. *Global Journal of Management and Business Research: D Accounting and Auditing*, 18(2), 40-56.
- Udeh, S.N., & Nwadiolor, E.O. (2016). Evaluation of effectiveness of internal audit in the Nigerian public sector. *European Journal of Business, Economics and Accountancy*, 4(3), 44-58.
- Usang, O.U.E., & Salim, B. (2015). A conceptual perspective of internal audit quality and local government performance in Nigeria. International Conference on Accounting Studies (ICAS) 17th -20th August 2015, Johor Bahru, Johor, Malaysia.
- Wacker, J.G. (1998). A definition of theory: Research guidelines for different theory-building research methods in operations management. *Journal of Operations Management*, 16, 361–385.
- Wilkinson, J. (2013). Agency Costs. WikiCFO. Retrieved from <https://strategiccfo.com/agency-costs/>