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Developing a Conceptual ERM Framework for Higher Educational Institutions (HEIS) in Nigeria: A Case Study of Katsina, Jigawa and Kano

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ABSTRACT

HEIs differs from commercial organizations because they simultaneously pursue educational research; and societal missions. Consequently, HEIs encounter unique categories of enterprise risks including strategic, operational, academic, cybersecurity etc. Literature reveal that neither COSO nor ISO 31 000 independently addresses all HEIs requirement. The main aim of the research is to develop ERM framework for HEIs in Nigeria. A qualitative research approach was adopted during the study using a Case Study of HEIs in Katsina, Jigawa and Kano. The primary data were obtained through interview, while the secondary data were obtained through literature review of different ERM frameworks with their area of risk focus. Both the Primary and Secondary data obtained from field and literature were integrated, synthesised and harmonised considering the risks peculiarity of HEIs. The research developed ERM framework for HEIs, consisting of Context, Process, Establishment, Integration, Function, Communication, Monitor, Review and Improvement of ERM framework with risk focus area as Strategy, Operation, Compliance, Reporting, Financial, Academic, Reputation, Technological, Hazard, Cybersecurity, Safety and Environment, Project, Error and Vulnerability.

KEYWORDS: *Enterprise Risk Management(ERM), Traditional Risk Management(TRM), Higher Educational Institutions (HEIs), ERM Components, Risk Focus.*

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1. INTRODUCTION

Globally, Higher Educational Institution's (HEIs) are facing myriad of risk which cause obstacles to their long-term viability, standing and overall effectiveness (Kadarisman, 2017; Roberts, 2018 and Michell 2023). The risk faces by HEIs will result to financial instability, regulatory constraints and evolving student and stakeholder expectation (Kalia et al., 2023). To mitigate or eliminate the risk faces by HEIs, HEIs must comply with policies to produce graduates with required competency, abilities and skills to compete in the global market (Fernandes & Sigh 2022).

However, Barac (2015), reveal that HEIs consider the concept of risk in HEIs as irrelevant as risk is normally associated with sports, behaviour of people, businesses and financial world. Similarly, HEIs viewed themselves as ivory-towers that are isolated and separated from the corporate world. HEIs are regarded as a place which accommodate deep thinking, discussing philosophical matters, theories and ideas in depth and as a place where future leaders, managers and investors are groomed but has nothing to do with the risk. The reality is that risk is part of everyday life and HEIs like any other businesses or people have to deal with the strategic, financial, operational, compliance, academic, reputational, technical and cybersecurity risks (Sabri, 2011; Kulasooriya, 2019).

Similarly, Kulasooriya (2019), reveal that the Strategic risk includes enrolment decline, program irrelevance, competitive pressure, failure to achieve institution objectives. Strategic risk also directly affects the ability of achieving the objectives of the institution through high quality delivery system, updated curriculums and programs that offer high employability while meeting the expectations of the

global market; Financial risks includes reduction in government funding, revenue instability, budget deficits, investment failure, human resources shortages, inefficient administrative systems. Financial risk occurs when assets are lost from natural disasters, banditry, kidnapping, terrorism; Academic risks include poor educational quality, research misconduct, accreditation challenges, curriculum obsolescence; Compliance risk occurs due to unconformity with government rules and regulations: Operational risks include infrastructure failure, human resource shortages, in efficient administrative systems. Operation risk affects the ongoing processes due to changing technologies; Reputational risk includes academic scandals, data breaches, governance failures, negative media coverage. Reputational risk occurs when general public perceptions on institutional name, qualifications given and its operations are negative; Technological risk include cyberattacks and Cybersecurity risk include data breaches, system outages and technology failures.

Furthermore, PricewaterhouseCoopers cited in Sum (2005) reveal that HEIs are undergoing a period of change driven by the need to maintain and enhance the excellent in teaching, research and other services in order to survive in the rapidly changing environment. HEIs has become much popular than ever in every country (Perera et al., 2020). The government now allocate more funds and resources to enhance the HEIs of their countries as they have realized the major roles played by HEIs in the economic, political and social sustainability of the country. In developing countries with less job opportunities and high unemployment rate, parents are highly enthusiastic about the HEIs of their children as they believe that it is the only way for a person to grab a job opportunity with high pay (Gunawardena, 2017). As a result, HEIs is becoming a popular business venture and many invest in the HEIs sector considering the increasing high demand and the potential growth in the sector. Many private HEIs run for profit across the world as only a small contribution of the HEIs is made by the state sector for free. Therefore, HEIs also runs as business organizations cannot be able to escape from challenges that other businesses are faced.

Recently, HEIs has recognised the necessity to have more organized and all-encompassing strategy for managing risks (Jarvis, 2021). And this can be achieved through Enterprise Risk Management (ERM). ERM, can be define as the Culture, Capabilities, and Practices that organizations integrate with strategy-setting and apply when they carry out that strategy, with a purpose of managing risk in creating, preserving, and realizing value. ERM, which initially recognised in the corporate sector has increasing received attention in academia as a strategy to improve decision-making process, protect institutional reputation, and ensure sustainable long-term outcomes (Liu, 2019). In general, risk is a positive or negative impact that occurs due to ongoing or future events which may have positive or negative impact on institutional goals (Ramadhan et al., 2020). But ERM can help organizations to achieve targeted goals (Sobel & Reding, 2004; Wang et al., 2010). HEIs must have an excellent system to mitigate or eliminate risk due to so many risks interfering with institutional goals (Rasih et al., 2015).

However, the implementation of ERM is continuously attached to some standard frameworks. Research reveal that previous studies on the application of ERM in HEIs have been conducted (Fernandes et al., 2022; Duarte et al., 2023; Sulastri et al., 2024) and various frameworks such as COSO (2004) was adopted to develop ERM framework approach for HEIs (Barreto et al., 2013; Harjoni et al., 2024) and also both COSO (2004) and ISO 31 000 (2018) were integrated to develop ERM framework for HEIs (Syahrullah et al., 2025). Similarly, studies reveal that COSO (2004) framework was characterised as complicated framework that many organizations found it difficult to understand (Perera et al., 2020) and ISO 31 000(2018) ERM framework does not provide step-by-step checklist to organizations for ERM implementation process and risk management professionals are thereby challenged as they will have to implement their own methodology in executing ERM into their organizations (IRM, 2018b). Therefore, the research aim at developing ERM framework for HEIs in Nigeria with view to enhance their risk management practice.

2. LITERATURE REVIEW

2.1. Concept of Enterprise Risk Management(ERM)

2.1.1. Enterprise Risk

Enterprise risk is defined as an extent to which the outcomes from the institutional strategy of an institution may differ from those specified in its institutional objectives, or the extent to which they fail to meet those objectives (Dickinson, 2001). Both the external and internal factors can cause the outcomes of an institution's activities to depart from those set down in its institutional objectives. Those external factors are new entrance in to the courses, new curriculum development, changes in economy, changes in courses and curriculum nomenclatures,

and changes in the political, legal, technological, demographic and other environment (Aven, 2016). The external factors are beyond the control of the management but ERM provide the required systems in place for an institution to be more resilient and adaptable to major changes. Similarly, internal factors are human error, fraud, system failure, disruption of production and so on, which represent major parts in operational risks.

Therefore, the dynamic changes arising from volatility in today's institution environment has exposed more limitations to the effectiveness of Traditional Risk Management (TRM) approach (Zhao, Hwang & Low, 2017; Chen, Chuang, Huang & Shih, 2019). These results to massive paradigm shift from such TRM approach which necessitate a rise in expectations for improvements on board and senior management approach in the management of risks (Zhao et al., 2014; Gatzert & Martin,2015). Furthermore, the increasing calls for an integrated, holistic and enterprise-wide approach to managing risks (Beasley, Branson & Hancock, 2009; Wubet, 2020; Kurniwati, et al., 2023), due the growing complexity of risks interactions in institutions while deciding on risk management tools and techniques had also demands more needs of ERM approach.

The concept of Enterprise Risk Management (ERM) expresses a holistic, integrated, comprehensive, consolidated, coordinated and interactive approach to managing risks across all faculty, departments and functional units within an institution (Cormican, 2014; Lin, Wen & Yu, 2012; Liu, Zou & Gong, 2013; Grace, Leverty, Phillips & Shimpi, 2015; Wubet, 2020). Dafikpaku, (2011) and Renault et al., (2016) emphasizes the need to embed ERM into the institutional system and culture to ensure its alignment with institutional strategy as this will promotes attainment of defined objectives and institutional success through the enhancement of consistent risk informed and evidence based strategic decision-making process. Organizational culture and system is an important influencer of ERM, described as a "robust tool" (Adeleke et al., 2016). The proactive/or offensive and strategic approach in the management of risks as an attribute of ERM implementation which supersedes the isolated and defensive silo-based approach (Renault et al, 2016; Gatzert & Martin, 2015).

2.2. Overview of Major ERM Frameworks

A framework serves as a guide, an outline or overview of interlinked items (activities) to facilitate an approach towards achieving a specific goal. An ERM framework is described as a specific set of functional activities and the associated definitions that define the ERM system in an organization and its relationship with the organizational system (Dafikpaku, 2011).

However, Pundervolt, (2017) and Vollmer, (2015) pointed out that, the choice of the suitable framework is determined by experience and knowledge of top management that have gained from both internal and external control system. Table 1 are ERM frameworks with their risk focus.

Table 1: ERM FRAMEWORKS

S/NO	FRAMEWORKS	COMPONENTS	RISK FOCUS
		1	2
1	CAS (2003)	A} Establish Context B} Identify Risks C}Analyse/Quantify Risks D}Integrate Risks E} Assess/Prioritized Risks F} Monitor and review	A} Hazard B} Financial C} Operational D} Strategic
2	COCO {2004}	A} Internal Environment B} Objective Setting C} Risk Assessment D} Risk Response E} Control Activities F} Information and Communication Monitoring	A) Strategic B) Operational C) Reporting D) Compliance
3	SASAC (2006)	A} Collection of Initial Risk Management Information B} Risk Assessment C} Development of Risk Management Tactics	A) Strategic B) Financial C) Market D) Operational/Legal

		D} Formulation and Implementation of Risk Management Solution E} Monitoring and Improvement of Risk Management	
4	ISO 31 000(2009)	A} Mandate and Commitment B} Framework Design for Managing Risk C} Implementing Risk Management Process for Managing Risk D} Monitoring and Review of Framework E} Continual Improvement of the Framework	A) Strategic B) Financial C) Operational D) Compliance/Legal E) Reputation F)Technology/Cyber Security
5	COSO (2017)	A} Governance and Culture B} Strategy and Objective Setting C} Performance D} Review and Revision E} Information, Communication and Reporting	A) Strategic B) Operation C) Reporting D) Compliance
6	GARP (2017)	A) Strategy B) Procedure C) Infrastructure D) Environment	A) Strategy B) Operational C) Reporting D) Legal
7	IERMCI (2017)	A) Process B) Operation C) ERM Control Environment	A) Strategy B) Operational C) Project
8	ISO 31 000(2018)	A) Leadership and Commitment B) Integration of Risk C) Design of Framework D) Implementation of Framework E) Evaluation of Effectiveness and Continual Improvement G) Safety and Environment	A) Strategy B) Operational C) Financial D) Compliance/Legal E) Project F) Information/Technology
9	COBIT 5 (2018)	A) Cybercrimes B) Errors C) Vulnerability D) Technology	

2.3. Enterprise Risk Management (ERM) in HEIs

HEIs differs from commercial organizations because they simultaneously pursue educational research; and societal missions (Barac, 2015). Consequently, HEIs encounter unique categories of enterprise risks including strategic, operational, academic, cybersecurity (Sabri, 2011; Kulasooriya, 2019) etc. Literature reveal that neither COSO nor ISO 31 000 independently addresses all HEIs requirement. Instead, an integrated approach is better suited for HEIs governance and quality assurance (Perera et al., 2020; ISO 31 000, 2018).

3. METHOD

A qualitative research approach was adopted during the study using a Case Study of HEIs in Katsina, Jigawa and Kano. The primary data were obtained through interview, while the secondary data were obtained through literature review of different ERM frameworks with their area of risk focus. Both the Primary and Secondary data obtained from field and literature were integrated, synthesised and harmonised considering the risks peculiarity of HEIs. The integration, synthesising and harmonisation was done through interview and brainstorming (Syahrullah et al., 2025) with several stakeholders in each three tertiary institutions (University, Polytechnic and College of Education) in Katsina, Kano and Jigawa. The integration results are shown in Table 2 below.

Table 2: INTEGRATION RESULT OF ERM FRAMEWORKS (CAS (2003); COSO (2004); SASAC (2006); ISO 31 000 (2007); COSO (2017); GARP (2017); IERMCI (2017)); ISO 31 000(2018)

COMPONENTS	SUBCOMPONENTS	RISK FOCUS
Context	Leadership and Commitment	Strategic
	Objective Setting	Operational
Process	Identification of risk	Reporting
	Identification techniques	Compliance
	Strategic risk	Financial
	Operational risk	Academic
	Reporting risk	Reputational
	Compliance risk	Technological
	Financial risk	Cybersecurity
	Academic risk	Hazard
	Reputational risk	Safety and Environment
	Hazard risk	Project
	Technological risk	Error
	Cybersecurity risk	Vulnerability
	Environmental risk	
	Project risk	
	Risk analysis, evaluation and response	
	Assessment techniques	
	Risk avoidance	
	Risk reduction	
	Risk transfer	
	Risk acceptance	
Establishment	Risk committee/Chief Risk Officer (CRO)	
	Audit committee	
	Integration Integrating ERM into Faculty/colleges	
	Integrating ERM into departments	
	Integrating ERM with internal control system	
	Integrating ERM with supporting system	
Function		
Communication		
Monitor, Review and Improvement of ERM framework		

4. DISCUSSION

The developed ERM framework for HEIs in Table 2 above consist of Context, Process, Establishment, Integration, Function, Communication, Monitor, Review and Improvement of ERM framework with risk focus area as Strategy, Operation, Compliance, Reporting, Financial, Academic, Reputation, Technological, Hazard, Cybersecurity, Safety and Environment, Project, Error and Vulnerability.

However, CAS (2003), consist of Context, Process, Monitor and Review with risk focus area as Hazard, Financial, Operational and Strategic; COSO (2004), consist of Internal Environment, Objective Setting, Risk Assessment, Risk Response, Control Activities, Information and Communication Monitoring with risk focus area as Strategy, Operational, Reporting, Compliance; SASAC (2006), consist of Collection of Initial Risk Management Information, Risk Assessment, Development of Risk Management Tactics, Formulation and Implementation of Risk Management Solution, Monitoring and Improvement of Risk Management with risk focus area as Strategy, Financial, Market, Operational; ISO 31 000(2009), consist of Mandate and Commitment, Framework Design for Managing Risk, Implementing Risk Management Process for Managing Risk, Monitoring and Review of Framework, Continual Improvement of the Framework with risk focus area as Strategy, Finance, Operation, Compliance, Reputation, Technology; COSO(2017), consist of Governance and Culture, Strategy and Objective Setting, Performance, Review and Revision, Information, Communication and Reporting with risk focus area as Strategy, Operation, Reporting, Compliance; GARP (2017), consist of Strategy, Procedure, Infrastructure, Environment with risk focus area as Strategy, Procedure, Infrastructure, Environment with risk focus area as Strategy, Operation, Reporting, Compliance; IERMCI(2017), consist of Process, Operation, ERM Control Environment with risk focus

area as Strategy, Operation, Project; ISO 31 000(2018), consist of Leadership and Commitment, Integration of Risk, Design of Frameworks, Implementation of Framework, Evaluation of Effectiveness and Continual Improvement with risk focus area as Strategy, Operational, Financial, Compliance, Project, Information Technology, Safety and Environment; COBIT 5 (2018), with risk focus area as Cybercrimes, Errors, Vulnerabilities, Technology.

5. CONCLUSION

The study review a reasonable number of frameworks developed by international standards organizations in order to fulfil the need of having consistent and compatible guidelines for institutions/organizations to implement effective ERM systems. However, most of these frameworks have had some criticism from practitioners and academia in terms of their risk focus area and variables composition.

HEIs ERM framework was developed with aim to overcome the limitations of the existing frameworks. HEIs ERM framework consist of seven (7) components as Context, Process, Establishment, Integration, Function, Communication, Monitor, Review and Implementation of ERM framework with risk focus area such as Strategic risk includes enrolment decline, program irrelevance, competitive pressure, failure to achieve institution objectives; Financial risks includes reduction in government funding, revenue instability, budget deficits, investment failure, human resources shortages, inefficient administrative systems; Academic risks include poor educational quality, research misconduct, accreditation challenges, curriculum obsolescence; Compliance risk occurs due to unconformity with government rules and regulations; Operational risks include infrastructure failure, human resource shortages, in efficient administrative systems; Reputational risk includes academic scandals, data breaches, governance failures, negative media coverage; Reputational risk occurs when general public perceptions on institutional name, qualifications given and its operations are negative; Technological risk include cyberattacks and Cybersecurity risk include data breaches, system outages and technology failures.

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