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Enterprise Risk Management and the Performance of Manufacturing Firms in Aba, Abia State

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Abstract: The intent of this paper is to examine the effect enterprise risk management (ERM) has on the performance of manufacturing firms in Nigeria. The research design adopted for this study is the descriptive survey method. The population for the study is all the staff of Starline Nigeria Limited, Aba. Using purposive sapling, the researchers selected 115 members of staff as the sample size. The instrument used for data collection is a researcher-developed questionnaire titled Enterprise Risk Management and Manufacturing Firm Performance Questionnaire (ERM&MFPQ). In analyzing the data obtained, the researchers adopted chi-square statistical test (X^2) in testing the hypothesis formulated in this paper. It was concluded in this study that enterprise risk management is a veritable tool that can aid manufacturing firms in Nigeria overcome the burdensome flux in the Nigerian manufacturing industry while driving sustainable competitiveness and cost leadership. The paper recommended that Manufacturers who desire to enhance their market competitiveness should adopt ERM, ERM processes should be institutionalized so that it becomes part of the usual organizational process and that Training employees on risk identification and evaluation on critical operational areas can help develop the culture of ERM within the organization thereby facilitating its seamless implementation.

Key words: Cost Leadership · Erm Process · Erm Structure · Market Competitiveness

INTRODUCTION

Manufacturing firms in Nigeria today are operating in a highly competitive environment largely driven by globalization which has opened the market boundary of nations without restriction through the rapid advancement in technology. This stiff competition is made even more intense by the increasing consumer awareness, shift in taste of consumers and government regulatory policies. The attendant effect of this stiff competition is the high risk exposure of these manufacturing firms. It has therefore become of essence that Nigerian manufacturing firms adjust effectively to their changing operational environment by developing or at least adapt risk management models that can enable them achieve sustainable performance. Risk management is a concept common among businesses as it is a common saying that there is no business without risk. However, what determines the effects of risk on the organization is largely the model of risk management adopted by the organization. Surviving and remaining sustainable in a highly volatile environment requires that corporate leaders of organizations must search out creative and innovative operational model which can foresee and forestall operational risk in order to enable the organization take advantage of the opportunity provided by the environment. Enterprise risk management (ERM) is evolving as the appropriate risk management model for enhanced performance [1]. Alluded to this when they asserted that the complexity of the globalization process to expand production, services and communication is linked to risks that these firms will face Rapid technological shifts affects organizations and pressure firms to be more innovative in order to meet consumer demands. The resources, services and the environment of an organization develop enterprise risks, where organization must study and prepare an action plan to treat such risks. Furthermore, human errors, fraud and

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system failure are key elements of the enterprise risk. All organizations must develop a more practical method in dealingwith risks covering more than statistical and analytical future scenarios and plans [2]. Organizations are developing more awareness that such risk must be managed with the total organization in mind.

In the view of CAS [3] Enterprise Risk Management is an approach for the whole organization to manage the risk and centralize the information according to the risk exposures. There have been other definitions of ERM. According to the Casualty Actuarial Society [3], Enterprise Risk Management is defined as the process by which organizations across all industries assess, control, exploit, finance and monitor risk s from all sources. It supports an increase in the organization's short and long term value to its stakeholders. COSO [4] sees ERM as a highly tailored analytic process which recognizes each insurer's unique structure, products, mix of business, potential earnings streams, cash flows and investment strategy. It emphasizes that ERM can bring benefits from a diversified base of products and investments as well as risks and geographic spread of risk (The benefits of uncorrelated or partially correlated risks).

Statement of the Problem: The Nigerian manufacturing industry is replete with narrative of unfriendly business environment characterized by high cost of capital, near absence of social capital, competition from imported raw materials and even finished goods, poor regulatory climate which has led to multiple taxation and the flooding of the market with less quality goods. These challenges and more may have resulted to the underperformance of the manufacturing firms in Nigeria and may have exposed the manufacturing firms to increasing operational risk. However, of more importance is the risks management model of different firms in the manufacturing industry. While some still employs the traditional risks management model, others may have opted for enterprise risk management (ERM). Those operating with ERM are further challenged by the number of employees with right skill and most importantly establishing its relevance to the operations of the organization. This is the crux of this study; to investigate how ERM affects the performance of manufacturing firms with interest in their competitiveness and cost leadership.

Objectives of the Study: The central objective of this paper is to examine how enterprise risk management affects the performance of manufacturing firms; it shall however focus on the following specific objectives;

- To examine the effects of ERM structure on the market competitiveness of manufacturing firms.
- To examine the effects ERM process has on the cost leadership of manufacturing firms.

Research Questions:

- To what extent does ERM structure affect the market competitiveness of manufacturing firms?
- To what extent does ERM process affect the cost leadership of manufacturing firms?

Hypotheses:

H_{01}: ERM structure does not have significant effect on the market competitiveness of manufacturing firms

H_{02}: ERM process does not have significant effect on the cost leadership of manufacturing firms.

Review of Related Literatures

Enterprise Risk Management: ERM is a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives [4]. Casualty Actuarial Society [3] defines Enterprise Risk Management as disciplines by which an organization in any industry assesses, controls, exploits, finances and monitors risks from all sources for the purposes of increasing the organization's short-and long-term value to its stakeholders. Drennan [5] on the other hand, defines Enterprise Risk Management as an integrated framework for managing credit risk, market risk, operational risk, economic capital and risk transfer in order to maximize firm value [6]. Defines Enterprise Risk Management as a decision-making discipline that addresses variation in company goals. Fatemi and Laft [7] point out that Enterprise Risk Management is concerned about a holistic, company-wide approach in managing risks and centralized the information according to the risk exposures. They use the term Risk Universe?, which is the risk that might impact on the future cash flow, profitability and continued existence of a company. In other words, risk universe is risk that could affect the entity of the company. If risk universe can be identified, the next step is to take an appropriate action such as risk mapping process, accessing the likelihood and impact and curb the risk based on the organizations' objective. Therefore, Enterprise Risk Management can be defined as a systematically integrated and discipline approach in

managing risks within organizations to ensure firms achieves their objective which is to maximize and create value for their stakeholders. There are two key points that must be highlighted according to the definitions given above. The first key point is the main role of ERM itself -it integrates and coordinates all types of risks across the entire organization. It means that risks cannot be managed in silo approach. All risks occurred in the entity must be combined and managed in enterprise approach. The second key point is by using ERM, users are able to identify any potential incidents that may affect the organization and know their risk-appetite. If the risk-appetite is specifically known, any decision made by the organization to curb risks may be parallel with the firm's objective [8].

As we can see from widely used ERM definition risk management should start from strategy level and should be transformed to tactical level in order to ensure that organization reaches its objectives. As mentioned before ERM concept shifts risk management from silo practice of specific risk management to process that covers all organizations risks and processes interconnections [9].

Challenges of Enterprise Risk Management Implementation in SMEs

Failure to Choose Appropriate Risk Management Framework: The nature of most SMEs and the pattern of their leaves much to be desired as it affects having defined risk management policies. This has led them to a reactive posture other than proactive one when it comes to the management of their risk. A risk management framework is the structured process used to identify potential threats to an organization and to define the strategy for eliminating or minimizing the impact of these risks, as well as the mechanisms to effectively monitor and evaluate this strategy.

Human Errors: Humans are not infallible and may lead to system failure by their own errors. In order to guard against such when implementing enterprise risk management, there is need to minimize the human factor. Lai *et al.* [10] advised that to overcome the challenge of human error, those in charge of implementing ERM should develop a risk glossary at the beginning of the process, so they can achieve time and resources efficiency. They opined that implementation team needs to agree on definitions for risks, risk assessment, risk management, ERM, significance, likelihood, inherent risk and residual risk. Afterwards it is very important to provide an organization-wide definition of risk which be applied across board within the organization, because there are several different interpretations. After this process, once a consensus has been reached at this first stage, proper implementation can take off. The implementation team must not lose sight of effective monitoring since this will ensure that the agreed-upon risk response is actually implemented and working. A risk-awareness culture should be entrenched within the organization; this will ensure that the risk process becomes institutionalized. Timely communication and effective feedback system is required if the entire organization must understand and appreciate the benefits they gain from implementing ERM.

Complex Environment: SMEs in Nigeria operates in a complex environment which is explained in the intensity of what management and economic writers have come to give the acronym VUCA (Volatility, uncertainty, complexity and ambiguity).Volatility explains the nature and dynamics of change, it also looks at the pace at which change catalysts occur. Uncertainty points at how unpredictable change drivers are while complexity is the confounding of issues and the chaos that surrounds organizations. Ambiguity is the haziness of reality and the mixed meaning of conditions, cause-and-effect confusion [11]. Especially according to evaluating and measuring risks it is necessary to know what could happen in the environment. Tsunamis, earthquakes, hurricanes, tornadoes and terrorism affect organizations worldwide. In those past years there were several examples of that and each inevitably affected the distribution of global supply chains [12].

Challenges Related to the Process: The typical ERM process ranges from risk identification to risks monitoring and it involves a lot of challenges. Risk identification appears to be one of the most challenging point in the process as it involves a systematic collection and isolation of information on nature, causes and effects of a risk factor within the operational environment of the organization. It is important to uncover all risks, because undetected risks can influence the organization [13]. The process should include reviews of prior internal audit reports, risk questionnaires, brainstorming, business studies, scenario analysis and more. It is helpful to interact with internal and external stakeholders. Once the risks are identified, risk assessment follows. This helps the management of the organization to clearly pin down the significance and the likelihood of the risk factor occurring. Risk assessment can adopt either a

qualitative, semi-quantitative and quantitative techniques. The enterprise risk manager is therefore faced with the challenge of selecting the right mix of technique for assessment. The next challenge for the management is to *treat the risks*. As already mentioned in the step before, it is necessary to produce a comprehensive list of all risks and tolerances. Afterwards the organization has to take action on the risks that exceed the tolerance line. The board may have to re-examine tolerances if many of the risks identified exceed them. The risk treatment options are: Accept risk, avoid risk, outsource, share, transfer or remedy risk. These steps have to be individualized by the organization itself.

Moullin [14] identified the followings as the challenges to ERM implementation challenges:

- Insufficient resources such as time and financial and human resources.
- Unsupportive organizational culture.
- Lack of perceived value or benefits of ERM.
- Inadequate training on ERM.
- Inadequate change management and resistance to change.
- Lack of qualified personnel to implement ERM.
- Lack of internal knowledge, skills and expertise.
- Lack of a risk management information system.
- Unclear ownership and responsibility for ERM implementation.

Dimensions of Enterprise Risk Management

Structure: An effective ERM implementation model should possess a structure to enable the management to understand and communicate the risk factors. Based on Posch and Nguyen [15] a proper risk management program in organizations is very important to handle the challenges in their operations. ERM practices within the firm's provide a structure that combines the risk management events in a holistic framework that facilitates the identification of uncertainties [16]. ERM structure establishes the policies, processes, competencies, reporting, technology and a set of standards for risk management. Standard and Poor's argued that the evaluation of organization ERM structures enable the firm to address all of their risks, set common terminology and expectation about which risk to take and which to avoid [17]. Our ERM model propose the structure dimension of ERM implementation model to be measured using four items which are: (i) ERM provide common understanding of the objectives of each ERM initiative (ii) provides common terminology and set of standards of risk management (iii) identifies key risk indicators (KRIs) and (iv) integrates risk with key performance indicators (KPIs).

Governance: Proper ERM governance ensures risk management system to develop internal control procedures which are crucial to avoid loss, safeguard security and enhance profitability [18]. The ultimate aim of risk management mechanism is linked to creating value in the form of reducing firm's cost of capital [19]. Simply put, ERM governance enables the organization to survive in the market and keep the organizations flourishing; it also supports the flow of internal information which helps make appropriate and timely decisions. Integrated ERM governance incorporates an infrastructure that enables everyone to improve transparency and understand their responsibility [20]. Moreover [21] argued that risk management program within the firm can only be successful if everyone know the nature of relevant risk. Thus all information concerning relevant risk facing enterprise must be dispersed effectively. Based on [18] the proper channel of communication within the organization enables all the members to understand their roles and responsibilities regarding risk. Our model proposes the governance dimension of ERM implementation model to be measured by four elements which are; (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.

Process: The proper risk management process helps the firm to first identify what risk to accept and what to avoid and then successfully quantify and measure the identified risk. ERM process enables the firm to integrate business strategies to achieve the desired objectives. Generally, ERM process consists of 5 steps which are: (i) Risk identification (ii) risk analysis (iii) risk assessment (iv) risk mitigation and (v) risk monitoring. The process dimension of ERM provides the way for aligning the risk management strategies with corporate strategic planning. According to Ramly and Rashid [16] the risk management process enhance the decision making and select the alternative response, assists enterprise to reduce operational losses and errors, identify and grab opportunity and enhance allocation of capital. Our ERM model proposes that the process dimension of ERM implementation model to be measured by six statements which are: (i) provides the rigor to identify and select risk responses (i.e. risk avoidance, reduction, sharing and acceptance) (ii) integrates risk with corporate strategic planning (iii) integrated across all functions and business units (iv) quantifies risk to the greatest extent possible (v) ERM strategy is aligned with corporate strategy and (vi) aligns ERM initiatives to business objectives.

Firm Performance: In every clime, small and medium scale enterprises are emerging as stronger economic drivers. This may be attributed to their role in employment creation, production and distribution of essential goods and services. These significant contributions may have attracted the attention of researchers to investigate their performance and understudy how they navigate murky waters of business to survive and remain sustainable despite having little resources. Performance is a widely used concept in many areas. Usually, performance is a measure of how well a mechanism/process achieves its purpose. In enterprise management, Lam [13] defines an organization's performance as how well the organization is managed and the value the organization delivers for customers and other stakeholders. This paper views performance as the ability of a firm to creditably meet the diverse contending needs of its stakeholders. Organizational performance according to Lai and Samad [11] is driven by the quality of allocation to tangible and intangible assets including ERM. Performance according to Hoyt and Liebenberg [9] is driven by past activities of the company which impact on the current and the future. Major concern had always been the measurement of organizational performance [8]. Stresses that the primary goal of measuring performance is to assess the progress of achieving corporate objectives which can either be financial or non-financial) [6]. Proposes two perspectives toward performance measurement; financial management and strategic management. The financial management emphasizes on the economic factors focusing on the external market from financial context. It focuses on income (Profit and loss), cash flows, return on investment and value. Under financial management, the primary task of management is to maximize returns to shareholders [5]. A major criticism of financial management according to Acharyya is the heavy reliance on financial outcomes and exclusion of strategic, operational and ethical issues including firm's social and environmental responsibilities.

Perspectives of Performance:

- Financial perspective: the emphasis of this perspective is the financial returns on capital invested. Returns in this context could be expressed in the form of profit or cash or economic value that has been generated over a period of time.
- Customer perspective: assesses the extent of customer's satisfaction, customer retention and customers' loyalty. Satisfaction could be measured through the numbers of letters of complaint, feedback from field sales and service representatives, customer response cards and questionnaires; while retention could be measured using the duration of a customer has a continuous relationship with a business organization. Loyalty could be measured by the number of new customers added to the business over a certain period of time while retaining the existing portfolio of clients.
- Innovation and learning perspective assesses the extent of innovation (Includes design leadership of products and services, new markets and customers' needs) and learning process (Includes quality measures, cycle time and after-sales services). This perspective focuses on creating value for customers and measuring the time scale from identifying customers' needs to meeting their needs while not compromising quality of the products and services.
- Internal business perspective focuses on employees-based measurements include quantitative outcome (Employees' satisfaction, employees' retention, employee training and skills) and information systems capabilities (Availability and responsiveness of accurate information within the organization and to customers). The above measurements are useful to manufacturing firms but [7] notes that BSC seems focusing on three groups of stakeholders that is owners (Financial), customers (Customer perspective) and employees (Innovative and internal business perspectives) while neglected the others like lenders (Banks and creditors). In fact, the model needs to incorporate other perspectives including business contact groups (Suppliers, competitors), government (Meeting the legislative requirements) and general public (The community as a whole) to make it a complete and holistic approach to assess performances.

Methods: The research design adopted for this study is the descriptive survey method. The design was used because it would allow the researchers to obtain factual information which will be a fair representation of the perceptions of the respondents. The population for the study is all the staff of Starline Nigeria Limited, Aba. Using purposive sapling, the researchers selected 115 members of staff as the sample size. The instrument used for data collection is a researcher-developed questionnaire titled Enterprise Risk Management and Manufacturing Firm Performance Questionnaire (ERM&MFPQ). In analyzing the data obtained, the researchers adopted chi-square statistical test in testing the hypothesis formulated in this paper. The chi-square formula is given as; $X^2 = \frac{\sum (Fo - Fe)^2}{Fe}$

The analysis was done using the 23.0 version of statistical package for social sciences (SPSS)

RESULTS

H_{01}: ERM structure does not have significant effect on the market competitiveness of manufacturing firms.

Table 1: Response Distribution Frequency for Research Question One

S/NO	SA	A	UD	D	SD	Total
1	19	49	21	23	3	115
2	12	30	27	28	18	115
3	17	38	23	26	11	115
4	24	44	31	16	0	115
5	21	49	24	19	2	115
Total	93	210	126	112	34	575

Source; *Field Survey, 2019*

Table 2: Npar Tests /Chisquare=ermsandmc Ranks /Expected=equal /Statistics Descriptives /Missing Analysis

	Descriptive Statistics				
	N	Mean	Std. Deviation	Minimum	Maximum
ERMSandMC	25	22.6400	13.17789	.00	49.00
RANKS	25	3.0000	1.44338	1.00	5.00

	Test Statistics	
	ERMSandMC	RANKS
Chi-Square	2.720[a]	.000[b]
Df	20	4
Asymp. Sig.	1.000	1.000

a. 21 cells (100.0%) have expected frequencies less than 5. The minimum expected cell frequency is 1.2.
b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 5.0.

The X^2 from the SPSS output above is 2.720 is higher than the 0.05 degree of freedom. We therefore rejected the null hypothesis and accept the alternate which stated that ERM structure has significant effect on the market competitiveness of manufacturing firms. This simply implies that market associated risk can better be handled or minimized by integrating it into the central risk management of the organization instead of treating it in isolation

H_{02}: ERM process does not have significant effect on the cost leadership of manufacturing firms

Table 3: Response Distribution Frequency for Research Question Two

S/NO	SA	A	UD	D	SD	Total
1	19	49	21	23	3	115
2	12	30	27	28	18	115
3	17	38	23	26	11	115
4	24	44	31	16	0	115
5	21	49	24	19	2	115
Total	93	210	126	112	34	575

Source, *Field Survey*, 2019

Table 4: Npar Tests /Chisquare=ermpandcl Ranks /Expected=equal /Statistics Descriptives /Missing Analysis

	Descriptive Statistics				
	N	Mean	Std. Deviation	Minimum	Maximum
ERMPandCL	20	23.0000	14.71841	.00	46.00
RANKS	20	3.0000	1.45095	1.00	5.00

	Test Statistics	
	ERMPandCL	RANKS
Chi-Square	1.600[a]	.000[b]
Df	17	4
Asymp. Sig.	1.000	1.000

a. 18 cells (100.0%) have expected frequencies less than 5. The minimum expected cell frequency is 1.1.
b. 5 cells (100.0%) have expected frequencies less than 5. The minimum expected cell frequency is 4.0.

The SPSS output of hypothesis two shows a X^2 value of 1.600 which is higher than 0.05. This implies that the null hypothesis is rejected in place of the alternate hypothesis. The import of this result therefore is that the effect of ERM process on the cost leadership of manufacturing firms is significant. It is therefore expected that manufacturing firms should ensure that ERM is made part of the overall operational strategy in order to minimize operational cost.

CONCLUSION

Managing risk associated with business operation is one critical assignment business managers must handle strategically in order to leverage on opportunities in their environment and create returns of value to their stakeholders. It is concluded in this study that enterprise risk management is a veritable tool that can aid manufacturing firms in Nigeria overcome the burdensome flux in the Nigerian manufacturing industry while driving sustainable competitiveness and cost leadership.

Recommendations: The paper advances the following recommendations;

- Manufacturers who desire to enhance their market competitiveness should adopt ERM.
- ERM processes should be institutionalized so that it becomes part of the usual organizational process.
- Training employees on risk identification and evaluation on critical operational areas can help develop the culture of ERM within the organization thereby facilitating its seamless implementation.

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