Risk Management Practices and the Financial Performance of Manufacturing Firms in Nigeria

Dr. Banjo, Kudirat Adeola & Oloyede Fatai Adewale

Department of Insurance School of Management and Business
Studies Lagos State Polytechnic, Ikorodu, Lagos State.

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Abstract: This study examined risk management strategies and the financial performance of Nigerian manufacturing firms. The cross-sectional research design was used in the study, along with a quantitative research strategy. In order to analyze the data gathered, the study used descriptive and inferential tools. To test the hypotheses, the regression analysis was used at the 0.05 or 5% level of significance. This study found that risk awareness has a significant impact on manufacturing company performance, and risk management practices improve manufacturing company performance substantially. Arisen from the findings of this study, the study recommended that management of manufacturing industry should ensure that their risk awareness is an efficient and effective because risk awareness affect performance of manufacturing companies. In order to ensure increase in performance of Manufacturing industry, management of manufacturing companies should ensure that effective risk management practice such as prompt risk identification, risk assessment, and efficient risk Control/Reduction system in order to enhance the performance of manufacturing companies.

Keywords: Financial Performance, Risk Management Practices, Risk Awareness, Manufacturing Firms.

Introduction

In today's dynamic business environment, the Manufacturing industry in Nigeria faces a wide range of risks, including political, credit, liquidity, foreign exchange, market and interest rate risks, among other – risks that could jeopardize the the sector's survival and growth. Siringi and Obange (2021) define risk as the variations that is probable to happen in prospective investment returns. Risk management encompasses the activities and measures taken to make sure that the company is aware of the risks it experiences, takes informed decisions in risk management, and recognizes and capitalizes on potential improvements. Effective risk management necessitates serious consideration of the fundamental terms of loss minimization, opportunity maximization, and volatility preparation (Mu, 2020). It is generally believed that the majority of people are averse to risk and that risk and return are connected.

According to some studies, management teams may not particularly believe that risk and return are strongly associated (Hussein, Hassan, & Faris, 2021). One of the key principles of portfolio analysis, as indicated by Klimzaek (2021), is that risk and return are positively related. aOthers, like Berinato (2021), contend that there might be an adverse relationship between accounting measures of risk and return. Thus, risk management research aids in resolving such inconsistencies. The major argument in all of these discussions is that risk management (RM) enhances firm value as long as the potential gains of hedging outweigh the costs. Aside from that, firms can use a systematic approach to risk management and create a culture of optimistic risk management to accomplish improved accountability, enhanced relationship with stakeholders and optimism, the advancement of a culture of learning, enhanced economic management and performance, improved resource allocation, improved compliance results, and a decrease in the possibility for lawsuit (Transparency-International-(TI), 2021).

Risk management at the organizational level is presently an important subject, having advanced into a well-established management discipline and being identified as a crucial governance and management instrument in the public and private sectors. Whereas taking calculated and informed risks is a crucial component of any firm’s strategy, enhanced globalization and modernization of the global financial system, adverse changes in macroeconomic factors, and intense competition have resulted in high-risk exposure for business enterprises.
While risk management is regarded as an important governance and management instrument, there is little evidence from prior empirical studies linking risk management strategies to the performance of Nigerian manufacturing companies. Okumu (2021) on reflective surfaces in finance management in Nigeria's manufacturing industry; (Siringi & Obange, 2021) on the consequences of cogeneration strategy on manufacturing organizational value; and Kegode (2021) on manufacturing company performance. According to the researchers' findings, companies in the Manufacturing industry keep growing at a slow pace, attributable to poor management decisions made in an ambiguous investment environment. According to reports, the manufacturing industry has significantly expanded in a regulated environment with the intention of making it strong and self-sufficient. Nevertheless, as illustrated by the low levels of output exports, the sustained protection has hindered technological advancement, export promotion, and integration with the rest of the civilized world. Furthermore, a research undertaken by Transparency International-International-(TI) (2021) illustrates that manufacturing companies are highly indebted to farmers, the Nigeria Manufacturing Board (KSB), and other lenders to the tune of N50.175 billion as of June 2021. This implies that the manufacturing firms have been subjected to extreme cash flow and liquidity issues. The manufacturing sector is undergoing of collapsing as a result a lack of accountability. In the meantime, it should be indicated that the Manufacturing sub-sector is highly taxed in terms of Value Added Tax (VAT), CESS, and Manufacturing Development Levy, resulting in significant erosion of gains accruable to farmers and millers. As indicated by the CGDBillsDigest (2017) survey, the Manufacturing segment is plagued by limited level of technology, rising cost of production, operations and maintenance, poor market price, and competitive forces from cheap legitimately imported Manufacturing under the Common Market for Eastern and Southern African States (COMESA) procedure, as well as political intrusion. Since the early 1990s, the Nigerian economy has been steadily liberalized, highlighting the industry's issues. A task force assigned by the Ministry of Agriculture in 2003 to investigate the sector's issues highlighted bad management, ineffectiveness, low productivity, manufacturing market failures, and inadequate infrastructure (Okumu, 2020).

Objective of the Study

The goal of this study is to directly connect risk management strategies used by Nigerian manufacturing companies to financial performance. The study is intended to resolve the following research goals:

1. define risk management strategies used by Nigerian manufacturing industries,
2. ascertain whether or not there are substantial variations in risk management processes used by manufacturing companies and;
3. investigate the correlation between risk management processes and corporate financial performance.

The research took a holistic approach to the assessment of managers' perceived risks and reaction, taking into account the majority of the significant issues to which companies are exposed. This research is important for a number of factors. The Manufacturing sub-sector study sheds light about how risk management strategies implemented by Manufacturing firms affect overall industry efficiency. The comprehensive evaluation of risk management-performance cause and effect is a positive step toward the implementation of policy recommendations for the Manufacturing sector's long-term development.

Literature Review

Risk Management

Risk management reflects the culture, procedures, and frameworks aimed at efficient risk management, such as prospective opportunities and threats to construction project goals (Hakkarainen, Kasanen, & Puttonen, 2019). Risk, despite being extensively studied, appears to lack a clear and shared ideal definition: risk is commonly portrayed as an undesirable, unfavorable consequence. This definition encapsulates two ideas: first, there is a well-established common understanding among experts that risk must be perceived as having both beneficial and detrimental effects. Also, risk is not only associated with events, i.e., single positions of action, but it is also associated with future project situations. Risk management is one of the most important project management practices for ensuring an achievement of project objectives. According to Gudbrand (2021), experience has revealed that risk management should be a top priority for stakeholders, not just project managers, because unmaintained or unrelenting risks are one of the leading reasons for project failure. Therefore, risk management is
directly related to the successful completion of a project. Even though risk is already a part of human society and all human institutions, risk management has evolved in popularity and utility in the scientific community, institutions, and practitioners.

To attain the objective of acknowledging why developing nations stand to benefit tremendously from such a strategic plan, it is necessary to first understand the emergence of risk management as a concept. Bearing this in mind, this study will examine risk management literature, comparing various points of view, and the strengths and drawbacks of risk management (Fraser, Madura, & Weigand, 2019). The initiation of probability mathematics prompted the development of risk management, which is a systematic and structured process for attempting to address risk. And it has resulted in the development of more advanced quantitative methods and approaches for assessing risk, exposure, and the resulting impact. Nevertheless, determining the possibility of risk, exposure, and the consequent effects necessitates data; notwithstanding, in the absence of data, the decision maker must make a risk judgment and determine the costs and advantages in the context of available alternatives of actions (Wanyande, 2019). Risk management is described as the procedure of protecting a firm's assets from shortfalls that may occur during the course of its operations, via the use of different instruments (deterrence, retention, insurance, and so on) and at the lowest possible cost. Risk management is indeed explained as the method of making plans, organizing, directing, and managing resources to attain particular goals in the face of unexpectantly good or bad incidents (Shapira, 2016). Risk management can be considered as a holistic approach and methods used to control and direct the several risks that can impact an organization's ability to achieve its goals.

Risk management is the procedure of approving or rejecting a recognized or assessed risk or taking steps to reduce the repercussions or probability of an unfavorable event occurring (John & Weitz, 2017).

**Risk Management Practice**

In its most basic form, risk management process entails the following activities: risk identification, assessment, and treatment (management), followed by the control/monitoring of activities that may result in losses - most commonly loss of money. The literature on project management explains a comprehensive and commonly recognized risk management procedure (Flannery, 2016). By choosing the suitable risk mitigation plan, the ambiguity of a risk event, and the likelihood of occurrence or possible effects, should be reduced. Sharpe (2016) classified the most frequently utilized risk mitigation methods as follows:

1. Avoidance – when a risk is not acceptable and other reduced risk options available available from a variety of sources.
2. Retention/Acceptance – when an intentional decision is taken to deal with the repercussions of an incident if it occurs.
3. Control/Reduction – when a procedure of constantly monitoring and trying to correct the project's situation is used. This procedure entails creating a risk-reduction strategy and then monitoring its implementation. This risk-mitigation strategy is the most widely used risk-management and risk-handling technique.
4. Transfer/Deflect – when the risk is shared with others. Forms of sharing the risk with others include contractual shifting, performance incentives, insurance, warranties, and bonds among others.

Forecasting the final outcomes of a project has become more complicated (Gupta, 2021), implying that contractors may not be able to predict with total conviction that a project will be completed within their timelines and budgets.

**Risk Awareness**

Risk awareness is the raising of understanding within the population of what risks exist, their potential impacts, and how they are managed. Risk awareness is the acknowledgement of risks and the active process of reducing or eliminating those risks (Gudbrand, 2021).

Absence of risk awareness causes procedures and processes to become items to comply with blindly. Culturally, when the lack of risk awareness is not addressed, it promotes a compliance mindset that
results in complacency. In situations where judgement is required, consequences may be fatal, with luck as the primary layer of protection (Henri & Peter, 2019). Transforming the culture of an organization to be more risk aware requires engaging the people who do the work. Frontline personnel have the most knowledge about the operational risks they face on a daily basis. They know which procedures work and which ones are typically not followed. At one point, they were new to a specific operation and had a heightened sense of risk awareness. But over time, they may have become complacent, and while they are aware of the risks, they no longer consider them.

Methodology

The study adopted cross sectional research design using quantitative approach. Cross sectional research design is most appropriate because structured questionnaire was administered to different manufacturing companies. Cross sectional research design allows one to collect quantitative data which can be analysed quantitatively using descriptive and inferential statistics.

Population of the Study

The study’s target population for this study constitutes senior staff of manufacturing companies listed on the Nigerian Stock Exchange who by their training and experience can be regarded as top management that are responsible for decision making. There were 20 manufacturing companies listed on the Nigerian Stock Exchange (NSE) with senior and management staff strength of 1,589.

Sample Size Determination

The study used the Taro Yamane formula in determining the sample size as follows: \( n = \frac{N}{1+N(e)^2} \). Where \( n \) is the sample size, \( N \) is the population size and \( e \) is the level of significance respectively, which in this case shall be 0.05. A sample size of 320 was used as the sample for the study.

\[
n = \frac{1,589}{1+1,589(0.05)^2} = 320
\]

Description of Research Instrument

Respondents responded freely and objectively on all the items by ticking the most appropriate option to them. The questionnaire was development based on a 5-point Likert scale of strongly agree (SA), agree (A), Undecided (UD), Disagreed (D) and strongly disagree (SD) respectively. However, the items in the questionnaire were rated as 5, 4, 3, 2 and 1 respectively.

To ensure that relevant variables in the study are adequately captured in the questionnaire, the researcher sought the opinion of experts in the field. The questionnaire for the study was adapted and modified.

The secondary data were sourced using documentation method of data gathering from the record of National Bureau of Statistics (NBS) and Nigerian Stock Exchange (NES).

Validity and Reliability of the Instrument

This comprises of two items, namely the validity of the questionnaire and its reliability respectively.

Content Validity

The instruments (questionnaire) were designed on a 5-point Likert scale (1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, 4 = relevant, 5 = very relevant) to evaluate the relevance and suitability of the measurement items. After developing the instruments, it was issued out to ten (10) experts which include: experts in marketing, practitioners, consultants and psychometrics. We used expert evaluation to rate the instruments and modified based on their comments. Comments made were incorporated in the final questionnaire. This was consistent with
previous studies who emphasized that it is beneficial to do so as it enables a researcher to assess its internal consistency, inter-item correlations and factor structure. Table 1 shows the results reflecting Content Validity Index (CVI) for the questionnaire all above 0.7 taken as acceptable basing on Sekaran (2003).

Table 1 CVI for Questionnaire

<table>
<thead>
<tr>
<th>Variable</th>
<th>Experts</th>
<th>Mean CVI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk management</td>
<td>0.8</td>
<td>0.7</td>
</tr>
<tr>
<td>Risk Awareness</td>
<td>0.7</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Source: Researchers Field Survey (2021)

Reliability

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials. After the development of the questionnaire, a pilot study was conducted on main sample which comprises of 10 Senior staff of manufacturing companies listed on the Nigerian Stock Exchange which were picked at random. The main rationale behind the preliminary study was to assess the clarity and relevance of the items in the instrument. There are many techniques of accessing instrument reliability but in this research, Cronbach Alpha technique was used to determine the reliability of the question. The advantage of this method is that it requires one testing session and this eliminates chance error due to differing test conditions. More so, Cronbach Alpha measures internal consistency among a group of items combined to form a single scale. It is a reflection of how well the different items complement each other in their measurement of different aspects of the same variable or quality and it interpret like a correlation coefficient. Questionnaire is considered reliable if the Cronbach Alpha coefficient is greater than 0.70. This is in line with the rules of thumb for the Cronbach alpha: >.9 is Excellent, >.8 is Good, >.7 is Acceptable, >.6 is Questionable, >.5 is Poor, and <.5 is Unacceptable.

As could be seen in the table 2 below, all the variables have Cronbach’s alpha coefficient above 0.7. Thus, confirming reliability of the instrument for the study.

Table 2 Reliability Test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach alpha (α)</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk management</td>
<td>0.835</td>
<td>1 – 5</td>
</tr>
<tr>
<td>Risk Awareness</td>
<td>0.974</td>
<td>1 – 5</td>
</tr>
</tbody>
</table>

Source: Researchers Field Survey (2021)

Method of Data Analysis

The study employed the use of both descriptive and inferential tools in analysing the data that was gathered. The descriptive tools that were used in the analysing include mean and standard deviation. Regression Method was used to test the hypotheses at 0.05 or 5% level of significance.

Model Specification

This will provide the researcher with the knowledge of the nature, and direction of the relationship between the variables.

\[
\text{Perf} = \beta_0 + B_1\text{RAWARE} + \varepsilon \quad \quad \text{… Model 1}
\]

\[
\text{Perf} = \beta_0 + \beta_1\text{RMP} + \varepsilon \quad \quad \text{… Model 2}
\]
Where:

Perf = Performance of Manufacturing Company
RAWARE = Risk Awareness
RMP = Risk Management Practice
β₀ - is a constant
ε is the error term

**Decision Rules**

This study used the following rules as the basis for statistical decisions: If p<0.05, the H₀ to be rejected which implies that the independent variables have significant effect on the dependent variable, but if otherwise, we fail to reject the H₀.

**Result and Discussion of Findings**

**Demographic Characteristics – Response Rate**

Out of the targeted sample size of 320, those who responded to the administered questionnaire were 311. The high response rate (97.3%) is attributed to fact that a personal (self-administered) approach was employed in collecting data. More so, the researcher maintained useful contacts with the respondents and the entrepreneurs, who were instrumental in identifying the relevant sampled respondents and maintaining good relationships with them, which yielded excellent response rates. Table 3 summarizes the response rate:

**Table 3 Response Rate**

<table>
<thead>
<tr>
<th></th>
<th>No. of respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questionnaires Issued</td>
<td>320</td>
<td>100</td>
</tr>
<tr>
<td>Responses Received</td>
<td>311</td>
<td>97.3%</td>
</tr>
<tr>
<td>Responses Discarded</td>
<td>8</td>
<td>2.4%</td>
</tr>
<tr>
<td>Responses Used</td>
<td>303</td>
<td>97.4%</td>
</tr>
</tbody>
</table>

**Source:** Researchers Field Survey (2021)

**Data Analysis**

**Table 4 Multi-collinearity Results**

**Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>(Constant)</td>
<td>.841</td>
<td>.421</td>
<td></td>
</tr>
<tr>
<td>Risk awareness</td>
<td>.321</td>
<td>.124</td>
<td>.233</td>
</tr>
<tr>
<td>Risk Management Practice</td>
<td>.241</td>
<td>.134</td>
<td>.214</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Manufacturing Performance

**Source:** Field survey, 2021.
KMO and Bartlett’s sphericity test

To evaluate the feasibility of the study, the Kaiser-Meyer-Olkin sampling adequacy index and Bartlett’s sphericity test were conducted; both methods suggested the existence of an acceptable inter correlation considering the criteria suggested by Nassiuma (2004). The Maximum extraction method was performed because it best reproduces the population values when the data has normal, multivariate distribution and the statistical significance of the extracted factors can be calculated Nassiuma (2004). The results for all the five variables show the KMO values are above 0.7 (table 5). This implies that the items in our questionnaire correlate well with other items within their respective clusters to measure the underlying dimension, hence, adequate to continue with further analysis.

Table 5 KMO and Bartlett’s Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>KMO</th>
<th>Bartlett’s test $\chi^2$</th>
<th>df</th>
<th>Sig</th>
<th>No of factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk awareness</td>
<td>0.841</td>
<td>531.823</td>
<td>15</td>
<td>.001</td>
<td>2</td>
</tr>
<tr>
<td>Risk Management Practice</td>
<td>0.863</td>
<td>684.198</td>
<td>21</td>
<td>.001</td>
<td>2</td>
</tr>
</tbody>
</table>


Test of Hypotheses

Hypothesis One

$H_0$: Risk awareness does not have significant effect on Performance of manufacturing companies.

Table 6 Model Summary for Hypothesis One

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.518 a</td>
<td>.471</td>
<td>.495</td>
<td>77414100154.5414</td>
<td>1.51</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Risk awareness
b. Dependent Variable: on Performance of manufacturing companies

Source: SPSS version 25 output.

Table 7 Coefficients for Hypothesis One

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk awareness</td>
<td>641416329</td>
<td>41003109</td>
<td>1.210</td>
<td>.061</td>
</tr>
<tr>
<td>4,211</td>
<td>67541411</td>
<td>.144</td>
<td>2.141</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Dependent Variable: on Performance of manufacturing companies

Source: SPSS version 25 output.

The relationship between Risk awareness and Performance of manufacturing companies is about 47%. R, as the correlation determinant, describes the degree in which the independent variable can illustrate the dependent variable. R square, as seen in the model summary, is approximately 51%, implying that independent variables can predict or evaluate dependent variables up to 51% of the time. This simply means that the ability of Risk awareness determines performance of manufacturing companies is about 51%.
This study revealed that a unit change in Risk awareness account for about 3.14-unit change in performance of manufacturing companies. This study revealed that though Risk awareness has a positive effect on Performance of manufacturing companies, however, the p value is higher than 0.05 level of significant (0.061 > 0.05 p). Since p value (0.001 < 0.05), we hereby reject the null hypothesis and conclude that Risk awareness has significant effect on the performance of manufacturing companies.

**Hypothesis Two**

$H_0$: Risk Management Practice does not significantly enhance Performance of manufacturing companies.

**Table 8 Model Summary for Hypothesis Two**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.517a</td>
<td>.577</td>
<td>.525</td>
<td>14741100.54</td>
<td>2.01</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Risk Management Practice  
b. Dependent Variable: Performance of manufacturing companies  
Source: SPSS version 25 output.

**Table 9 Coefficients for Hypothesis Two**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>714116329</td>
<td>14123109</td>
<td></td>
<td>1.210</td>
</tr>
<tr>
<td>Risk Management Practice</td>
<td>1.141</td>
<td>1.210</td>
<td>.071</td>
<td>2.21</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Performance of manufacturing companies  
Source: SPSS version 25 output.

Based on the findings in the model summary, the correlation between Risk Management Practice and Performance of manufacturing companies is about 57%. This study revealed that a unit change in Risk Management Practice account for a significant change in Performance of manufacturing companies. This study revealed that Risk Management Practice significantly enhances Performance of manufacturing companies. Since p value (0.009 < 0.05), we hereby reject the null hypothesis and conclude that Risk Management Practice significantly enhance Performance of manufacturing companies.

**Summary of Findings**

This study revealed that:

1. Risk awareness have significant effect on the performance of manufacturing companies.  
2. This study revealed that Risk Management Practice significantly enhances Performance of manufacturing companies.

**Conclusion**

This paper focused on the effect of risk management practice on the performance of manufacturing companies in Nigeria. This paper empirically examined the effect of risk awareness on the performance of manufacturing companies, and revealed that risk awareness has significant effect on the performance of manufacturing companies. In the same light, this study revealed that Risk Management Practice significantly enhances
Performance of manufacturing companies.

**Recommendations**

The following recommendations were made for this study:

1. Management of Manufacturing industry should ensure that their Risk awareness is an efficient and effective because Risk awareness affect performance of manufacturing companies
2. To ensure increase in performance of Manufacturing industry, management of manufacturing companies should ensure that effective risk management practice such as prompt risk identification, risk assessment, and efficient risk Control/Reduction system in order to enhance the performance of manufacturing companies.

**References**