# RISK ANALYSIS AND ORGANISATIONAL PERFORMANCE IN SELECTED ENGINEERING FIRMS IN NIGERIA

## OLOWOKUDEJO, F. F.
Department of Actuarial Science & Insurance,
Faculty of Management Sciences, University of Lagos

*folowokudejo@unilag.edu.ng.*

## Abstract

*This study investigated the relationship between risk analysis and organisational performance in engineering firms in Nigeria. The business environment is dynamic and uncertain; hence business organisations require effective risk analysis to manage their operations and performance. The purpose of this study was to evaluate the effect of risk analysis on productivity, capacity utilization, and product quality. The methodology adopted was based on a quantitative research approach using a survey method. The sample consists of 315 staff from Mantrac Nigeria Limited, Cumis Africa, and Mikano International. The multistage sampling techniques of purposive sampling and convenience sampling were adopted for this study. The data collected were analyzed using descriptive statistics such as frequency distribution and simple percentages while inferential statistics through regression analysis was used to test the hypotheses. The result shows that risk analysis has a significant effect on the productivity of engineering firms; risk analysis has a significant impact on the capacity utilization of engineering firms and that risk analysis has a significant effect on the product quality of engineering firms. This study concluded that there is a significant positive relationship between risk analysis and organisational performance in engineering firms in Nigeria. On the basis of the findings and conclusion, the study recommends among other things that engineering firms should continue to do adequate and regular risk analysis that helps in taking appropriate business decisions* for *enhanced organisational performance.*

**Keywords:** Risk Analysis, Performance, Capacity Utilization, Product Quality, Engineering firms.

## 1.    Introduction

The Nigerian business environment is highly complex, volatile, and dynamic but like every contemporary business environment, it is fraught with risks and uncertainty (Dogara, 2015) therefore, it is pivotal for organisations and management to equip with tools that will assist them to maneuver the challenges in the business environment in order to maintain and sustain desired performance levels.  Furthermore, the recent COVID 19 pandemic has caused unprecedented shifts in the business environment dynamics which requires

rethinking business models, processes, and methods in managing risks (Munther, Abbadi, Al-Omush & Ahmad, 2021).

The assessment and management of risk are vital human daily activities and the hazards in the engineering business environment also require the assessment and management of risk, hence a well-established and effective risk analysis is required to maintain desired organizational performance. This is because irrespective of the challenges and limitations, maximizing organizational performance is a major goal and objective of any contemporary business organisation (Contu, 2020) hence a well-established and effective risk analysis is considered a panacea for maintaining desired organisational performance. Risk analysis identifies the potential for harm from probable risks. Generally, risk analysis refers to the tactics employed for the identification and assessment of issues that are likely to obstruct the success or accomplishment of predetermined project objectives (Samimi, 2020). Olowokudejo and Nwankwo (2016) argued that risks can have adverse consequences on business organisations, as such there is a need for more research into ways risk analysis can be more effective towards organisational performance.

The aim of this study is to investigate the relationship between risk analysis and organisational performance in engineering firms in Nigeria. The following are the specific objectives of this study: To determine the influence of risk analysis on the productivity of engineering firms in Nigeria.; To examine the influence of risk analysis on the capacity utilization of engineering firms in Nigeria; To determine the influence of risk analysis on the product quality of engineering firms in Nigeria and the following research questions are asked: What influence does risk analysis have on the productivity of engineering firms in Nigeria? To what extent is the influence of risk analysis on the capacity utilization of engineering firms in Nigeria? How does risk analysis influence the product quality of engineering firms in Nigeria? The following hypotheses are postulated

$H0_1$:   Risk analysis has no significant influence on the productivity of engineering firms in Nigeria.

$H0_2$:   Risk analysis has no significant influence on the capacity utilization of engineering firms in Nigeria

$H0_3$:   Risk analysis does not have a significant influence on the product quality of engineering firms in Nigeria.

Measuring organisational performance in financial and non-financial terms is one of the most complex management and organisational behaviour exercise in an organisation. For engineering firms that are into the manufacturing and distribution of industrial products, measuring organisational performance is based on efficiency in productivity, capacity utilization, safety, and quality (Stevenson, 2012; Amyotte & McCutcheon, 2016). Unfortunately, many

organisations are yet to fully grasp how effective risk analysis can contribute to their organisational performance level, especially in a business environment like Nigeria. Several studies have been done in the past regarding risk analysis and management (Ennouri, 2013; Adabenege, Simpa, Mohammed & Mohammed, 2015; Olowokudejo & Nwankwo, 2016). Kawugana, Adamu & Mubi, 2020; Munther, Abbadi, Al-Omush & Ahmad, 2021), however, there appears to be limited empirical evidence with direct insights from engineering firms in Nigeria. This study seeks to bridge the gap in the literature by examining the linkage between risk analysis and firm performance in terms of efficiency in productivity, capacity utilization, and quality in engineering firms in Nigeria.

## 2.    Literature Review

Risk can be defined as the measurable extent to which the actual outcome of a decision may vary from the desired expectation. In other words, the risk is applied to a situation where there are several possible outcomes to a particular event (Saleem & Zain-Ul-Abideen, 2013; Thompson & Strickland, 2014; Kawugana, Adamu & Mubi, 2020). Risk management is the identification, assessment, and prioritization of risks as well as the coordination and economical application of resources to lessen, observe and control the likelihood and effect of unbearable events with a view to enhance the accomplishment of firm goals (Olowokudejo & Nwankwo, 2016). Risk analysis is the process of assessing and appraising the likelihood of an adverse event occurring within the business organisation and environment (Olowe, 2016). It is the study of the underlying and basic uncertainty of a given course of action and refers to the uncertainty of forecasted expectations as such risk analysis helps in determining the probability of a project's success or failure, and possible future economic states. The problem for most organisations is that too much risk in business operations and activities can lead to business failure. Risk analysis allows for balancing between taking risks and reducing risks in the process of taking advantage of business opportunities (Bochkovskyi & Sapozhnikova, 2018; Muneer, 2020).

Effective risk analysis fundamentally considers proactive steps to detect issues that will impact an organisation negatively (Ennouri, 2013; Muneer, 2020; Adabenege, Simpa, Mohammed & Mohammed, 2015). From a strategic management point of view, risk management practices should include stakeholder involvement, effective risk management policies, well-integrated communication, and continuous risk monitoring which should be clearly documented, so that the roles and responsibilities are clearly defined within the organisation (Kazmi, 2008; Thompson and Strickland, 2014; Wheelen & Hunger, 2012). Business organisations utilize risk analysis techniques which include quantitative risk analysis and qualitative risk analysis (Samimi, 2020) The different risk analysis methods are used based on the type of organisation,

type of project, and more. The quantitative risk analysis uses probability distributions to characterize the risk's probability and impact. It also uses the project model (e.g., Schedule, cost estimate), and mathematical and simulation tools to calculate the probability and impact (Stevenson, 2012; Samimi, 2020).

Organisational performance is defined as a set of performance and analytic processes that measures the extent to which business organisations achieve predetermined goals and objectives (Wheelen & Hunger, 2012). Several authors and scholars have different approaches to measuring business performance, most common among these are financial business performance and non-financial business performance. For this study, organisational performance is measured in terms of productivity, capacity utilization, and product quality. Stevenson (2012) stated that internal performance measures are critical to organisational effectiveness as they determine the extent to which business resources and processes align to attain desired organisational goals and objectives. According to Conțu (2020), the rationale for enhancing productivity is to guarantee improved outputs.  The conceptual model guiding this study is presented below:

**Fig. 1   Conceptual Model of the Study**
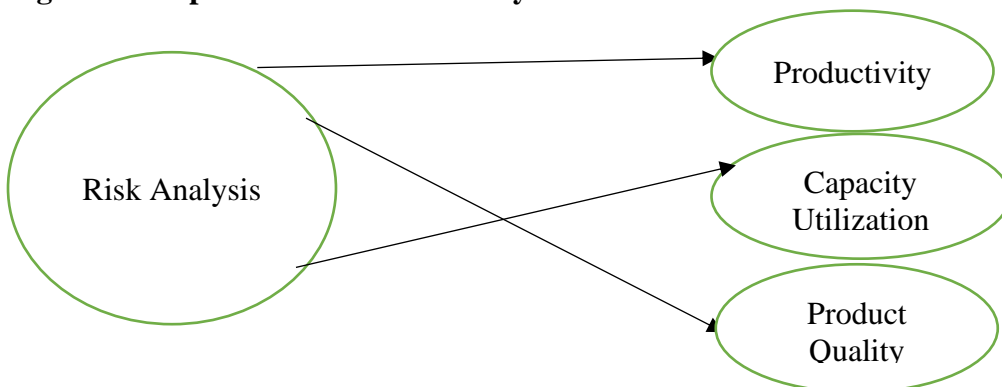


*Source: Researcher, 2021*

The theory used in this study is the Risk Society Theory developed by Beck (1896). The theory asserts that contemporary society represents a peak of a transition between industrial society and risk society. Therefore, the changing nature of societies is strongly connected to production and distribution as regards its impact on environmental issues, globalization, and scientific and technical knowledge. Based on the above, risk and class reconfiguration overlap on national and international scales.

## 3.    Methods
A descriptive research design that is made up of cross-sectional analysis is used for this study Population for the study consists of 1501 employees Mantrac Nigeria Limited, Cummis Africa, and Mikano International, all in Lagos State.

For the purpose of this study, the targeted sample size was derived using the Yamane formula:

$$n = \left(\frac{N}{(1+N(e^2))}\right)$$

n = Sample size    N = Total Population    $e$ = Precision estimate. Confidence level is 95% and + or – 5%.

$$= \left(\frac{1501}{(1+1501(0.05^2))}\right) = \left(\frac{1501}{(1+1501(0.0025))}\right) = \left(\frac{1501}{(4.7525)}\right) = 315.21$$

Multistage sampling techniques were adopted to select 315 employees. Firstly, a purposive sampling technique was used to select the engineering firms then a convenience sampling technique was used to select individual employees of the selected engineering firms in Lagos state. The primary data were collected using a 5-point Likert scaled, structured questionnaire with closed questions. The scale ranges from strongly agree, agree, undecided, disagree to strongly disagree. The pilot study was carried out to assess the reliability of the instrument. All the variables examined have Cronbach alpha values exceeding 0.6, which confirms the reliability of the survey instrument (Kothari, 2008). Both descriptive and inferential statistical techniques were employed to analyze the data. For descriptive analysis, frequency distribution and percentages were used while Regression analysis and Analysis of variance-ANOVA were used to test the hypotheses.

## 4.    Data Analysis and Presentation
Out of the 315 copies of the structured questionnaire distributed, 265 copies were returned and found useful for further analysis, this gives an approximate response rate of 84.1% which is considered adequate for this type of study.

**Table 1 Demographic Data of Respondents**

| Responses | | Frequency | Percentage (%) |
|---|---|---|---|
| **Gender** | Male | 154 | 58.1 |
| | Female | 111 | 41.9 |
| | **Total** | **265** | **100.0** |
| **Age** | 21 - 30 years | 95 | 35.6 |
| | 31 - 40 years | 100 | 37.8 |
| | 41 -  50 years | 62 | 23.4 |
| | Above 51 years | 8 | 3.0 |
| | **Total** | **265** | **100.0** |
| **Highest Level of Educational Qualification** | WASC/GCE | 0 | 0.0 |
| | OND/NCE | 20 | 7.5 |
| | B.Sc. / BA/ HND | 150 | 56.6 |
| | M.Sc. / MA/MBA | 73 | 27.5 |
| | Ph.D. | 22 | 8.3 |
| | Others | 0 | 0.0 |

| | Total | 265 | 100.0 |
|---|---|---|---|
| **Number of years of operating and working in the organisation** | Less than 1 year | 0 | 0.0 |
| | 1 – 5 years | 62 | 23.4 |
| | 6 – 11 years | 102 | 38.5 |
| | 1 5– 30 years | 101 | 38.1 |
| | 16 – 20 years | 0 | 0.0 |
| | Above 21 years | 0 | 0.0 |
| | **Total** | **265** | **100.0** |
| **Level of Management in the organisation:** | Top-level/ Senior management level | 25 | 9.5 |
| | Middle-Level Management | 160 | 60.4 |
| | Lower Level / Junior Level management | 80 | 30.2 |
| | **Total** | **265** | **100.0** |

*Source: Field Survey, 2021*

Table 1, shows that 58.1% of the total participants are male while 41.9% of the respondents are female. Most of the respondents belong to the active workforce, with the age bracket of 21 to 30 years being the modal age. The table also shows that; 7.5% have OND/NCE, 56.6% have B.Sc./BA/HND, 27.5% have M.Sc./MA/MBA, 8.3% have Ph.D. As regards years of working experience, 23.4% have spent between 1- 5 years, 38.5% have spent between 6 - 10 years, 38.1% between 11 - 15 years, on the job. Also, 9.5% of the respondents are in top/senior management level, 60.4% are in middle-level management and 30.2% of the respondents are in lower level or junior management in the selected organisations.

**Table 2: Respondents' opinion on the influence of risk analysis on the productivity of engineering firms in Nigeria**

| Statements | | 5 | 4 | 3 | 2 | 1 | TOTAL |
|---|---|---|---|---|---|---|---|
| Proper risk identification, assessment and monitoring is used in our operations and production processes. | **Frequency** | 164 | 71 | 5 | 20 | 5 | **265** |
| | **Percent** | 61.9 | 26.8 | 1.9 | 7.5 | 1.9 | **100.0** |
| Risk assessment helps to ensure that volume of output is achieved in our operations and production processes | **Frequency** | 154 | 100 | 1 | 10 | 0 | **265** |
| | **Percent** | 58.1 | 37.7 | 0.4 | 3.8 | 0.0 | **100.0** |
| risk analysis has a significant influence on the productivity of this organization | **Frequency** | 228 | 20 | 3 | 4 | 10 | **265** |
| | **Percent** | 84.9 | 7.5 | 1.1 | 1.5 | 3.8 | **100.0** |

*Source: Field study, 2021*

Table 2 revealed that 61.9% of the respondents strongly agree/agree that proper risk identification, assessment, and monitoring are used in their operations and production processes, 1.9% were undecided while 9.4% of the participants

strongly disagree/disagree: 95.8% of the respondents strongly agree/agree that risk assessment helps to ensure that the required volume of output is achieved in their operations and production processes, 0.4% of the respondents were undecided and 3.8% of the respondents disagreed: 92.4% of the respondents agreed or strongly agreed that risk analysis significantly influences the productivity of their organisation, 1.1% of the respondents were undecided, while 5.3% of the respondents disagreed or strongly disagreed.

**Table 3: Respondents' opinion on the influence of risk analysis on the capacity utilization of engineering firms in Nigeria.**

| Statements | | 5 | 4 | 3 | 2 | 1 | TOTAL |
|---|---|---|---|---|---|---|---|
| Proper itemization and identification of risks help to manage resources efficiently in this organisation. | **Frequency** | 201 | 48 | 5 | 11 | 0 | **265** |
| | **Percent** | 75.8 | 18.1 | 1.9 | 4.2 | 0.0 | **100.0** |
| risk assessment metrics are used to measure the extent of risk in the organisations' operations | **Frequency** | 216 | 38 | 1 | 5 | 5 | **265** |
| | **Percent** | 81.5 | 14.3 | 0.4 | 1.9 | 1.9 | **100.0** |
| risk analysis influences capacity utilization of this organisation significantly | **Frequency** | 231 | 19 | 5 | 4 | 6 | **265** |
| | **Percent** | 87.2 | 7.2 | 1.9 | 1.5 | 2.3 | **100.0** |

*Source: Field study, 2021*

Table 3 revealed that 93.9% of the respondents agreed or strongly agreed that proper itemization and identification of risks helps to manage resources efficiently in their organisation, 1.9% were undecided while 4.2% of the respondents disagreed or strongly disagreed; 95.8% of the respondents agreed or strongly agreed that their organization uses risk assessment metrics to measure the extent of risk in their operations, 0.4% were undecided while 3.8% disagreed or strongly disagreed; 94.4% of the respondents agreed or strongly agreed that risk analysis significantly influences capacity utilization in their organisation, 1.9% were undecided while 3.8% disagreed or strongly disagreed.

**Table 4: Respondents' opinions on risk analysis influence product quality of engineering firms in Nigeria.**

| Statements | | 5 | 4 | 3 | 2 | 1 | TOTAL |
|---|---|---|---|---|---|---|---|
| Effective risk analysis helps to ensure quality checks on raw materials/ product | **Frequency** | 228 | 20 | 3 | 4 | 10 | **265** |
| | **Percent** | 84.9 | 7.5 | 1.1 | 1.5 | 3.8 | **100.0** |
| Effective risk analysis helps to ensure quality checks on our final products | **Frequency** | 236 | 22 | 0 | 0 | 7 | **265** |
| | **Percent** | 89.1 | 8.3 | 0.0 | 0.0 | 2.6 | **100.0** |
| | **Frequency** | 255 | 9 | 0 | 0 | 1 | **265** |

| Risk analysis has a significant influence on the product quality of this organisation. | **Percent** | 96.2 | 3.4 | 0.0 | 0.0 | 0.4 | **100.0** |
|---|---|---|---|---|---|---|---|

*Source: Field study, 2021*

Most respondents (92.4%) agreed or strongly agreed that effective risk analysis help to check the quality of raw materials and product inputs in their organization, 1.1% were undecided, while 5.3% disagreed or strongly disagreed; 97.4% of the respondents agreed or strongly agreed that effective risk analysis helps to check the quality of their final products, while 2.6% of the respondents strongly disagreed; 99.6% agreed or strongly agreed that risk analysis has a significant influence on the product quality of their organisation while 0.4% of the respondents strongly disagreed.

## Hypotheses Testing
## Hypothesis I
H0: Risk analysis has no significant influence on the productivity of engineering firms in Nigeria.

## Regression Analysis for Hypothesis one
### Table 5: Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .811[a] | .658 | .624 | 0.921 |

a. Predictors: (Constant), Risk analysis

### Table 6. ANOVA[a]

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 6.964 | 1 | 6.964 | 10.409 | .020[b] |
|   | Residual | 246.913 | 264 | 0.669 | | |
|   | Total | 253.877 | 265 | | | |

a. Dependent Variable: Productivity
b. Predictors: (Constant), Risk Analysis

### Table 7: Coefficients

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | T | Sig. |
| 1 | (Constant) | 1.337 | .155 | | 15.008 | .000 |
|   | Risk Analysis | .450 | .016 | .401 | 2.654 | .012 |

a. Dependent Variable: Productivity

The overall model from ANOVA table is (F = 10.409; Sig. = 0.02) which indicated that the model is statistically significant (p < 0.05). Thus, the null hypothesis is rejected and the alternative hypothesis accepted stating that risk

analysis has a significant influence on the productivity of engineering firms in Nigeria.

## Hypothesis II
H0: Risk analysis has no significant influence on the capacity utilization of engineering firms in Nigeria

### Regression Analysis for Hypothesis Two

**Table 8: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .955[a] | .912 | .907 | 1.464 |

a. Predictors: (Constant), Risk analysis

**Table 9: ANOVA[a]**

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 5.113 | 1 | 5.113 | 9.049 | .012[b] |
| | Residual | 208.597 | 264 | 0.565 | | |
| | Total | 213.887 | 265 | | | |

a. Dependent Variable: productivity
b. Predictors: (Constant), Risk Analysis

**Table 10: Coefficients**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.447 | .106 | | 21.207 | .000 |
| | Risk Analysis | .181 | .040 | .284 | 3.489 | .012 |

a. Dependent Variable: Productivity

From the analysis results, the model is (F = 9.049; Sig. = 0.012) which shows that the model is statistically significant ($p < 0.05$). Thus, the null hypothesis is rejected and the alternative hypothesis is accepted stating that there is significant influence of risk analysis on the capacity utilization of engineering firms in Nigeria.

## Hypothesis III
H0: Risk analysis does not have any significant influence on the product quality of engineering firms in Nigeria.

## Regression Analysis for Hypothesis Three
### Table 11: Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .893[a] | .797 | .716 | 1.224 |

a. Predictors: (Constant), Risk Analysis

### Table 12: ANOVA[a]

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 5.224 | 1 | 5.224 | 5.909 | .011[b] |
| | Residual | 233.437 | 264 | 0.884 | | |
| | Total | 238.888 | 265 | | | |

a. Dependent Variable: Product quality
b. Predictors: (Constant), Risk Analysis

### Table 13 Coefficients

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | T | Sig. |
| 1 | (Constant) | 2.125 | .106 | | 23.507 | .000 |
| | Risk Analysis | .126 | .051 | .284 | 3.489 | .011 |

a. Dependent Variable: Product quality

As shown in Table 13 above, the model demonstrates a significant fit (F = 5.909; Sig. = 0.011), with p-value (p < 0.05). Thus, the null hypothesis is rejected and the alternative hypothesis accepted stating that risk analysis has significant influence on the product quality of engineering firms in Nigeria.

## 5.    Discussion of Findings
The findings indicated a significant influence of risk analysis on the productivity of engineering firms in Nigeria. The majority of the respondents pointed out that risk analysis sets the precedent for increased productivity in engineering firms. The findings agree with Adabenege et al (2015)   based on their assertion that when firms analyze their risk properly, they would be able to achieve high production levels. The study findings also were in line with AbdulAziz and Abdul-Manab (2020) emphasizing that risk analysis as a risk culture helps in sustaining business performance in Malaysian environmentally sensitive listed companies. The study findings revealed that there is a significant influence of risk analysis on the capacity utilization of engineering firms in Nigeria. The respondents pointed out that engineering firms adopt risk analysis in the utilization of equipment, machines, and production material. The findings of this study support the findings of Ennouri (2013), Anton and Nucu (2020), as well as Kawugana et al (2020) that risk analysis places organizations in a position to enhance capacity utilization. The findings, however, disagreed with

Komlik (2018) who posits that risk analysis is an end in itself as this study finds that it is not the end but a means to an end.

Finally, the findings revealed the significant influence of risk analysis on the product quality of engineering firms in Nigeria. The respondents stated that risk analysis helped in ensuring the quality level of raw materials and finished products through risk control in quality checks. The findings agreed with Saleem and Zain-Ul-Abideen (2013), Olowokudejo and Nwankwo (2016) Munther et al (2021) asserting that risk analysis contributes to product quality enhancement in an organisation.

## 6.    Conclusion
Based on the results of data analysis, this study concludes that there is a significant positive relationship between risk analysis and organisational performance in the selected engineering firms in Nigeria. Risk analysis was found to be a major aspect of engineering operations of Mantrac Nigeria Limited, Cummis Africa, and Mikano International. This study concludes that Risk analysis helps in identifying risk elements, categorizing the risks, and finding ways to mitigate risk occurrence in engineering operations therefore it is an effective tool for enhanced productivity, capacity utilization, and product quality in business operations in engineering firms in Nigeria. The risk analysis and management practices help prevent losses and unforeseen circumstances in engineering operations.

## 7.    Recommendations
The following recommendations are made considering the study findings and conclusions:
 i.   Engineering firms should continue to adopt adequate and regular risk analysis and decisions that take cognizance of their engineering business operations.
 ii.  Also, the management of engineering firms should ensure that their risk analysis and management strategy are aligned with both internal factors and external factors influencing business operations for it to be effective in delivering desired results.
 iii. Finally, the executive and management of engineering firms should conduct a periodic survey on risk analysis in their operations before setting their risk management strategy so that they can adopt the most appropriate strategy that can influence organisational performance.

## *References*

AbdulAziz, N. A. & Abdul-Manab, N. (2020). Does risk culture matter for sustaining the business? Evidence from Malaysian environmentally sensitive listed companies. *International Journal of Management and Sustainability*, 9(2), 91-100.

Achim, M. V. & Borlea, S. N. (2018). Business performances: between profitability, return and Growth. *Journal of Management Sciences*. 1(1), 20-29.

Adabenege, Y. O., Simpa, L. Y., Mohammed, K. U. & Mohammed, A. (2015). The correlation between risk management and organisational performance: An empirical investigation using panel data. *Research. Journal of Finance and Accounting.* 6(16), 136 – 148.

Amyotte, P. R. & McCutcheon, D. J. (2016). Risk management – an area of knowledge for all engineers. *A Discussion Paper Prepared for The Research Committee of the Canadian Council of Professional Engineers.* 1-34

Anton, S. G. & Nucu, A. E.A.N. (2020). Enterprise risk management: A literature review and agenda for future research. *Review Journal.* 1(1),7-10

Bochkovskyi, A. & Sapozhnikova, N. Y. (2018). The theory and practice of risk assessment of professional dangers. *Grain Products and Mixed Fodder's* 18(2), 56-74.

Conțu, E. G. (2020). Organisational performance – theoretical and practical approaches; study on students' perceptions. *Sciendo Journal.* 1(1), 398-406.

Dogara, G. N. (2015). The impact of the Nigerian business environment on company performance: a case of 20 most capitalized companies in Nigeria. *International Journal of Business and Management Review*, 3(4), 36-48.

Ennouri, W. (2013). Risks management: New literature review. *Polish Journal of Management Studies*. 8, 288-298.

Kawugana, A. Adamu, Y. & Mubi, A. A. (2020). The impact of risk management on organisational Efficiency in Plateau State inland revenue service. *International Journal of Social Sciences and Management Research*, 6(5), 34 – 43.

Kazmi, A. (2008). *Strategic management and business policy*. (3rd edn). New Delhi: McGraw-Hill.

Komlik, O. (2018). Risk society theory. *The global community of academics, practitioners, and activists.*1 (1), 1-5.

Kothari, C.R. (2008). *Research methodology, methods and techniques* (2nd ed). New Delhi: New Age International limited.

Misra, K. B. (2008). Risk analysis and management: an introduction. *Research Gate Journal RAMS Consultants, Jaipur, India.*

Muneer, S. (2020). Enterprise risk management and performance of Pakistan manufacturing firms: does the equity ownership matter? *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*. 11(8), 1-13.

Munther, A. Abbadi, S. S., Al-Omush, A. & Ahmad, H. (2021). Risk management practices and firm performance with a mediating role of business model innovation. Observations from Jordan. *Journal of Risk and Financial Management* 14,113 – 133.

Olowe, R. A. (2016); *Financial management: Concepts, financial system and business finance,* 3rd Edition, Lagos, Brierly Jones/Ibadan University Printing Press Nigeria.

Olowokudejo F. F. & Nwankwo, S. I. (2016). Business risk management and organisational performance: empirical evidence from small and medium enterprises (SMES) in Nigeria. *Journal of Management Sciences.* 33 – 40.

Saleem, S. & Zain-Ul-Abideen, O. (2013). Do effective risk management affect organisational performance? *European Journal of Business and Management,* 3(3), 258 -269.

Samimi, A. (2020). Risk management in information technology. *Progress in Chemical and Biochemical Research*, 3(2), 130-134.

Stevenson, W. J. (2012). *Operations management* (11th ed.). Boston: McGraw-Hill.

Thompson, A. A. & Strickland, A. J. (2014) *Strategic management*. New York: McGraw-Hill, 421 - 433.

Wheelen, T. L. and Hunger, J. A. (2012). *Strategic management and business policy: Toward global sustainability*. (13th edition). New York: Pearson.112-127.