

**Research Article**

Risk management practices and financial performance nexus: Evidence from MSMEs in Osun State, Nigeria

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ABSTRACT

This study assessed the effect of enterprise risk management on the firm financial performance of Micro, Small and Medium-scale Enterprises in Osun state Nigeria. Precisely, the risk encountered, the adoption of risk management practices, the implementation of Enterprise Risk Management (ERM) practices, and the financial performance of micro, small and medium scale enterprises in Osun state Nigeria. Primary data was used for this study; a well-structured questionnaire was used to elicit data from 273 respondents. The study population consists of owners and managers of small and medium businesses in Osun state, Nigeria. Data were analyzed using descriptive analysis and was the inferential statistic used to test the hypotheses. The results showed that market (33.7%), strategic (57%), financial (46.9%), operational (34.2%), management (47.6%), and technological (45.4%) are risks prevalent to micro and small businesses, but most of the respondents disagreed that the relationship of their staff to the customer is poor. Risk acceptance with a mean score of (2.27 ± 1.21) is the most utilized risk management practice adopted by the MSMEs. The implementation of ERM practices shows that MSMEs more utilized setting of objectives (43.6%), risk identification (38.3%), risk assessment (36.2%), and control activities (31.2%) and the financial performance of the businesses was moderate (69.7%). The correlation analysis shows no significant relationship between the scale of business and the adoption of risk management practices. Also, the regression analysis shows that Risk identification ($\beta = 0.388$, $p \leq 0.01$) and Control activities ($\beta = 1.096$, $p \leq 0.01$) are the only ERM variables that significantly affect financial performance. The study concluded that the implementation of enterprise risk management practices has a significant effect on the financial performance of Micro, Small and Medium enterprises in Osun State, Nigeria.

Keywords: *Risk Management; MSMEs; SMEs; Performance*

1. INTRODUCTION

Since the 1990s, as companies have faced multiple shocks in the competitive environment, interest in Enterprise Risk Management (ERM) has increased (Arena et al., 2010). In the economic situation of the 21st century, the business model of an organization is constantly challenged by competitors and events that may pose significant risks (Risk, 2007). The risk management strategy is a measure taken by the company against the identified risks. Liebenberg & Hoyt (2003) report that corporate risk management has attracted the attention of global risk management professionals and academics. Unlike traditional silo enterprise risk management methods, enterprise risk management enables companies to benefit from integrated risk management methods that change the focus of risk

management functions from increasingly aggressive, mainly defensive methods to Strategic (Liebenberg & Hoyt, 2003). Risk as defined by Crane et al (2013) is the chance or loss of an unfavorable outcome associated with an action. He also postulated that uncertainty is not knowing what will happen in the future, the greater the uncertainty the greater the risk. Therefore, we can infer that enterprise or business risk is negative and means uncertain. So therefore, businesses are to have a mechanism in place to manage or mitigate risks this leads to risk management. Florio & Leoni (2017) asserted that ERM practices are directed at reducing the enterprise's exposure to unwanted risks while taking advantage of the process to improve firm financial and non-financial performance. Effective deployment of appropriate ERM tactics empowers firms to improve their business process and manage the risks arising in a more effective way that's the view of Lechner & Gatzert (2018). A truly effective risk management practice drives benefits to the bottom line by reducing diverse operational and marginal costs and increasing profitability (Eckles et al., 2014). Callahan & Soileau (2017) asserted that firms with poor ERM policy and practices fall short of those with formal and effective ERM practices in operational and financial performance. It is without a doubt that there is a significant positive relationship between ERM practices and firm performance (Callahan & Soileau, 2017; Florio & Leoni, 2017; Zou & Hassan 2017). So, in this research, the implementation of enterprise risk management and financial performance will be assessed among Micro, small and medium enterprises in Osun state, Nigeria.

1.1. RESEARCH QUESTIONS

The following are the questions of interest for this study:

1. What are the risks encountered by MSMEs?
2. What are the practices adopted by the firms in managing the risks?
3. What is the financial performance of MSMEs?
4. What is the effect of enterprise risk management practices on the firm financial performance?

1.2. OBJECTIVE OF THE STUDY

The main objective of the study is to assess enterprise risk management and firm performance of Micro, Small and Medium-sized Enterprises in Osun state, Nigeria.

The specific objectives are to:

1. assess the risks encountered by MSMEs,
2. evaluate the risk management practices of MSMEs,
3. assess the firm financial performance of MSMEs, and
4. evaluate the ERM implementation practices of MSMEs.

2.3. Hypotheses

1. There is no significant relationship between the scale of the business and the adoption of risk management practices.

2. There is no significant relationship between ERM implementation practices and financial firm performance.

2. REVIEW OF LITERATURE

There is a degree of uncertainty that comes with all business endeavors and enterprise activities. This uncertainty is generally referred to as risk. Risk is characteristically existent in all forms of business enterprises – irrespective of how small or how big, and in every economic activity no matter the scale of operation. Every business choice or any entrepreneurial act is to a certain degree connected with a level of risk. Risk in business or otherwise is often defined as the possibility of something undesirable taking place. To put it more holistically and in context, enterprise risk is associated with the chances of an event occurring with an unknown potential business impact that may either be negative or positive. The terms risk and uncertainty are often used interchangeably with respect to the changeability of returns connected with a given asset or investment.

“Enterprise-wide means the removal of traditional functional, divisional, departmental, or cultural barriers. ERM is a new phenomenon that involves risks associated not only with health & safety and financial but also with technological, reputational and other business areas (Nayak et al., 2010). ERM is encouraging the culture of risk-based decision making as it provides a more holistic view of various risks across the organization which helps decision making easy. Several organizations have realized that ERM has the potential to provide a new competitive advantage. As a result, they have started adopting the concepts of ERM within their business settings and are getting benefits from it. However, several other organizations are still uncertain about ERM, and exactly how to translate the concepts of ERM into concrete action steps that will help them to enhance shareholders’ value” (Shahzed et al., 2013)

The outcome of any given event or risk may be advantageous or disadvantageous to an enterprise, however, the risk is commonly thought out as the likelihood of occurrence of an unwanted outcome. Largely, firms are more concerned with undesirable outcomes that can negatively impact their business process and performance, and thus require proper management. Despite the necessity for a comprehensive risk management program, many MSMEs rarely carry out a detailed risk assessment and management strategies. The mechanism to prevent the harmful effects of risks is also not systematically developed and performed (Mwangi, 2014). Studies by the IFC as cited by Oyelaran-Oyeyinka (2020) in FSS, the report states that approximately 96% of Nigerian business are SMEs, also SMEs represent about 90% of the manufacturing/industrial sector in terms of the number of enterprises but they only represent a paltry 1% of GDP.

Enterprise risks come with associated challenges and prospects which may also be referred to as the disadvantages and benefits of risk in business. *“Risk is defined as uncertainty that may have positive or negative consequences from different events” (Islam et al., 2018).* Rates of risk exposure are accelerated with the increasing number and complexity of products and services in every entrepreneurial endeavor (Faisal, 2016). Nonetheless, enterprise risks can be foreseen and managed in many cases (Verbano & Venturini, 2011).

The hub of risk management is to identify potential unpredictable challenges and adopt the best means of reducing the impact on the firms' performance – financial and non-financial. Given the external unpredictability such as political issues, enterprise-related economic conditions, technological disruptions and industry policies, managing enterprise-related risk is one potent approach for keeping performance alive and achieving organizational goals – long and short term.

However, according to Brustbauer (2016), many companies especially small and medium-sized enterprises lack reliable knowledge in risk identification, assessment and management. Also, resource deficiency (human and material), and the paucity of appropriate tools to support the application of viable enterprise risk management practices. Emerging enterprises such as micro, small and medium firms, are disadvantaged with limited resources and are faced with even more challenges in their risk management attempts. Most of the ERM tools at the disposal of developed enterprises and leading multi-nationals are typically not appropriate for use by the smaller enterprises because these tools are either too expensive to acquire or too complicated to use (Pereira et al., 2015).

Even though enterprise risk management (ERM) is a more holistic form of risk management studies have shown that SMEs don't take cognizance and don't practice enterprise risk management particularly in Africa may be due to the small nature of the businesses or insufficient working capital. If risks are not mitigated against it will affect the performance of the firm negatively and vice versa. Hence this study is designed to assess enterprise risk management and firm performance among MSMEs in Osun state, Nigeria.

3. METHODOLOGY

3.1. DESIGN OF THE STUDY:

The study was carried out in Osun State, Nigeria particularly in Ile-Ife town and the city of Osogbo. The study adopted a descriptive survey research design. According to SMEDAN (2013), there are 2,247 micro-enterprises and 25 medium enterprises in Osun state, therefore this statistic shows that there is a total of 2,272 registered MSMEs in the state.

3.2. SAMPLE SIZE AND SAMPLING TECHNIQUE:

The study employed a purposive sampling technique in selecting the sample for the study as the respondents were purposely selected with a minimum of 5 to a maximum of 199 employees which is the standard for MSMEs in Nigeria. Yamane's (1973) method of sampling size determination was used to determine the sample size, the formulae are $n = N / 1 + (Ne^2)$ where (n) is the sample size, (N) is the population of the study, while (e) is margin for error which is 0.05. The sample size is (340) respondents based on calculations.

3.3. DATA ANALYSIS:

Descriptive statistics such as frequencies, percentages, mean and standard deviation were used for the analysis of the research. There were two hypotheses in this study, the first

hypothesis was analyzed by the use of Pearson's correlations and the second hypothesis was analyzed by the use of regression analysis.

4. RESULTS AND DISCUSSION

4.1. SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS.

Table 1. Distribution of respondents by socio-economic characteristics

Variables	Frequency (F)	Percentage (%)
Number of Employees		
Less than 10	220	80.6
10 – 49	49	17.9
50 – 199	4	1.5
Total Asset		
Less than 5M	187	68.5
5 – less than 50M	66	24.2
50 – less than 500M	20	7.3
Total Monthly Income		
Less than 500,000	201	73.6
500,000 – 999,000	35	12.8
1M – 5M	14	5.1
Above 5M	23	8.4

Table 1 presents the socio-economic distribution of the respondents by their number of employees, total assets and total monthly income. The table shows that (80.6%) less than 10 employees, also (17.9%) reported that they had between 10-49 employees while only (1.5%) had 50-199 employees. On assets (68.5%) of the respondent reported that their total assets are less than 5 million naira, (24.2%) reported total assets of 5-less than 50 million naira only (7.3%) reported their assets to be between 50-less than 500 million naira. (73.6%) of the respondents reported a monthly income of less than 500,000 naira, (12.8%) reported an income of 500,000 – 999,000 and (8.4%) reported an income of above 5 million naira. Therefore, there are more micro industries in the state than small and medium enterprises based on the findings of this study in which majorities (80.6%) have less than 10 employees, (68.5%) have a total asset of fewer than 5 million naira and (73.6%) has a total monthly income of fewer than 500,000 naira. This is in tandem with the findings of SMEDAN (2013) that the majority of MSMEs reported monthly sales of less than 50,000 naira, and also the vast majority of MSMEs are micro-enterprises.

4.2. RISKS ENCOUNTERED BY MSMEs

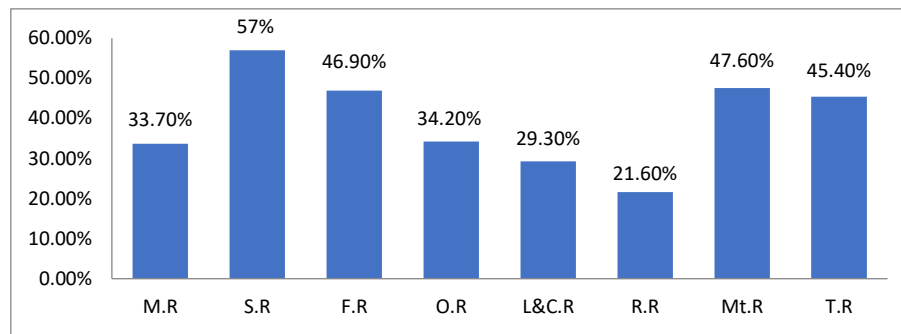


Fig. 1. Respondents' distribution on risks encountered by MSMEs.

M.R – Market Risks L & C.R – Legal and Compliance Risks S.R – Strategic Risks
 R.R – Reporting Risks F.R – Financial Risks Mt.R – Management Risks
 O.R – Operational Risks T.R – Technological risks

Source: Field Survey 2019

Fig. 1 shows respondents' distribution on risks encountered by MSMEs. According to this, on risks encountered by MSMEs, (33.7%) of the respondents reported that market risks are high, (57%) reported that strategic risks are high, (49.6%) reported that financial risks are high, (34.2%) that operational risks are high, (29.3%) reported that legal and compliance risks are high, (21.6%) reported that reporting risks are high, (47.6%) reported that management risks are high and (45.4%) reported that technological risks are high. So this shows that market risks, strategic risks, operational risks, reporting risks, management risks and technological risks are risks prevalent to MSMEs. Hudakova et al., (2018) posited that there is a dependence between the intensity of market risks that SMEs are experiencing and the size of the enterprises and that financial risks are the second most important risks facing SMEs and also there is no dependence on the intensity of financial risks and the size of SMEs. Therefore, this shows that market risks, finances are significant risks facing MSMEs.

4.3. RISK MANAGEMENT PRACTICES OF MSMEs

Table 2. Distribution of respondents by risk management practices adopted by MSMEs

Risk management practice	NA (%)	L (%)	M (%)	G (%)	VG (%)	Mean ± SD
Risk Acceptance						
Overlooking the risk if it will not affect the business	13.3	11.1	23.2	40.2	12.2	2.27 ± 1.21
Loss Prevention and Reduction						
Putting measures in place to prevent losses from occurring or to reduce the impact of losses.	8.5	19.6	29.2	22.9	19.9	2.26 ± 1.22
Risk Diversification						
Having more than one type of product, engaging in multiple business portfolios	10.7	19.1	19.4	36.4	14.0	2.24 ± 1.22
Risk Avoidance						
Involvement in alternative activity, or Otherwise ending a specific exposure	12.2	23.6	43.9	12.2	8.1	1.80 ± 1.07
Risk Transfer						
Shifting of risk to another party e.g Insurance	56.3	18.0	11.8	4.0	9.9	0.93 ± 1.32

NA – Not at all,

L – Least,

M – Moderately,

G – Good

VG – Very Good.

Source: Field survey, 2019

On risk management practices adopted by MSMEs, from the data in Table 2 above, the most prevalent risk management practice adopted by MSMEs is risk acceptance with a mean score of 2.27 ± 1.21 , while the second most adopted is loss prevention and reduction with a mean score of 2.26 ± 1.22 , risk diversification follows with a mean score of 2.24 ± 1.22 , then risk avoidance with a mean score of 1.80 ± 1.07 and risk transfer with a mean score of 0.93 ± 1.32 . Therefore, this shows that risk acceptance, loss prevention and reduction and risk diversification are the most adopted risk management practices by MSMEs, while risk transfer e.g insurance is seldom practiced by MSMEs. Mwangi (2014) posited that risk acceptance has a positive significant relationship with financial performance also that that risk diversification is more adapted to a great extent by SMEs, but risk avoidance has a negative effect on firm performance. The findings of the national bureau of statistics were that most MSMEs are not covered by any insurance policy that is most of them are not insured (SMEDAN, 2013).

4.4. EVALUATION OF ERM IMPLEMENTATION PRACTICES OF MSMEs.

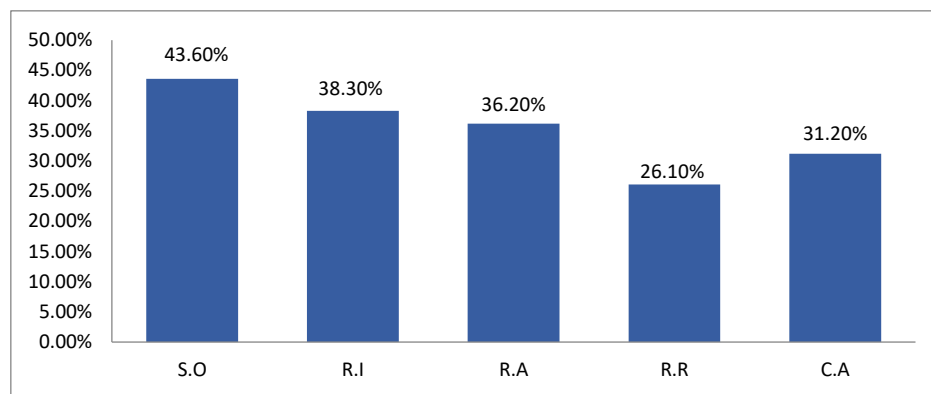


Fig. 2. Bar chart showing the distribution of respondents by Implementation of ERM practices.

S.O – Setting of Objectives

R.R – Risk Response

R.I – Risk identification

C.A – Control Activities

R.A – Risk Assessment

From the data in Fig. 2, (43.6%) of the respondents reported that they practice setting of objectives highly, (38.3%) practice risk identification highly, (36.2%) practice risk assessment highly, (26.1%) practice risk response highly and (31.2%) practice control activities highly. This shows that setting of objectives, risk identification and risk assessment are the enterprise risk management practices adopted by most of the enterprises as indicated by respondents.

4.5. FIRM FINANCIAL PERFORMANCE OF MSMEs

Table 3. Distribution of firm financial performance of MSMEs

Firm financial performance	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean $\pm$ SD
Growth in sales	6.6	12.8	37.4	27.6	15.4	3.32 ± 1.089
Growth in market share	3.7	16.5	36.6	32.6	10.6	3.31 ± 0.98
Growth in profit	1.8	13.9	42.5	24.2	16.8	3.41 ± 0.98
Increased return on assets (ROA)	4.1	26.7	39.9	21.6	7.7	3.03 ± 0.97
Increased return on equity (ROE)	2.5	22.7	50.5	13.6	10.8	3.08 ± 0.94

Improved gross revenues	1.8	14.4	41.4	30.8	11.7	3.38 ± 0.91
Increased total asset turnover	3.7	11.0	53.5	24.9	7.0	3.2 ± 0.86
Increased average return on sales	4.0	11.7	37.7	32.6	13.9	3.41 ± 1.00

According to the data in Table 3 above, the respondents are experiencing growth in profit with a mean score of 3.41 ± 0.98 , increased average return on sales is high with a mean score of 3.41 ± 1.00 , followed by improved gross revenues with a mean score of 3.38 ± 0.91 , growth in sales is also high with a mean score of 3.32 ± 1.09 , followed by growth in market share with a mean score of 3.31 ± 1.09 , increased total asset turnover has a mean score 3.2 ± 0.86 , return on equity has a mean score of 3.08 ± 1.09 , and return on assets has a mean score of 3.03 ± 0.86 . This shows that most of the MSMEs were performing well financially. This agrees with the findings of Nurlaela et al., (2019) opined that total assets turnover is a significant part of firm financial performance, as well as the work of Olasanmi & Ojubanire (2020) that small enterprises in Southwestern Nigeria were not performing badly financially.

4.6. HYPOTHESES TESTING

Hypothesis 1: There is no significant relationship between the scale of the business and the adoption of risk management practices.

Table 4. Summary of correlation analysis between the scale of business and adoption of Risk management practices

Variables	Correlation Coefficient (r)	Correlation of Determination (r ²)	Percentage Contribution	P-value
No of employees	-0.043	0.0018	0.18	0.478
Total assets	-0.028	0.0008	0.08	0.644
Monthly revenue	0.053	0.0028	0.28	0.384

**Correlation is significant at 0.05 level*

Table 4 shows the correlation analysis testing the relationship between the scale of business and adoption of risk management practices. The table reveals that there is a negative and no significant relationship between the scale of business and adoption of risk management practices this is in variance to the findings of Beasley et al (2005) and Hoyt & Liebenberg (2011) in which they reported that firm size is positively related to the adoption of ERM.

Hypothesis 2: There is no significant relationship between ERM implementation practices and financial firm performance.

Table 5. Summary of regression analysis between the adoption of Enterprise risk management and firm financial performance.

Variables	Standardized regression coefficient (β)	T - Value	P-value
Constant		17.426	0.000
Setting of objectives	-0.240	-1.614	0.108
Risk Identification	0.388	2.253	0.025
Risk Assessment	0.360	1.796	0.074
Risk Response	0.119	0.467	0.641
Control activities	1.096	3.615	0.000

Table 5 shows the regression analysis testing the relationship between enterprise risk management and firm financial performance. The table reveals that only risk identification ($\beta = 0.338$) and control activities ($\beta = 1.096$) have a significant effect on financial performance. while the setting of objectives ($\beta = -0.240$), Risk assessment ($\beta = 0.360$), and Risk response ($\beta = 0.119$), had no significant relationship with the financial performance of micro, small and medium scale enterprises. So, this implies that the adoption and implementation of Enterprise risk management practices of identifying risk and controlling the risks by micro, small and medium businesses will lead to better financial performance of the business this agrees with the findings of Shad & Lai, (2015) which they posited that there is a positive relationship between ERM and firm performance. According to the findings of Nyagah (2014), it was reported that risk response has a positive effect on financial performance also that information and communication had a negative and significant effect on financial performance findings, he also posited that control activities as a risk management practice affect the financial performance of pension fund management firms in Kenya. Risk identification is important in addressing the risks in an organization because according to Duong (2009) he reported that it is vital that the management acknowledge and understand risks within a business operation.

5. CONCLUSION

The study concluded that the dominant way of doing business is the micro and small enterprise way because the majority of the enterprises have less than 10 employees and also make less than 500,000 naira per month as revenue. Risks especially market risks, financial risks strategic risks affect MSMEs, they affirm that generally risks are faced by MSMEs no matter the form. Most of the respondents do not practice risk transfer especially on the practice of insurance most responded negatively while they favor risk diversification, more than half practice risk acceptance, risk acceptance is the most common risk management practice adopted by MSMEs followed by Loss prevention/reduction, risk diversification, risk avoidance and lastly risk transfer. Enterprise risks management practices were implemented to a degree by MSMEs with the highest being setting of objectives and the lowest risk response, also the responses on financial firm performance are satisfactory based on findings financial performance of MSMEs in Osun state is moderate. From the study, the scale of the firm does not have a significant association with the adoption of risk management practices while implementation of ERM practices especially risk identification and control activities have a significant relationship with financial firm performance.

6. RECOMMENDATION

Founded on the findings and observations in this study it is recommended that risk management practices should be much more practiced by owners and managers of MSMEs especially insurance as this conforms to one of the objectives of this study of which risk management practices of respondents were evaluated. Insurances companies should introduce innovative and appealing packages for micro, medium and small-scale businesses so as to stimulate their interest and adoption of insurance as a risk

management practice because according to the study insurance is the least risk management practice adoption, MSMEs should start seeing insurance as an option. More scholarly works should be carried out to establish why insurance is low among MSMEs. Government should always enact policies that are favorable to small businesses because legal and compliance risks are one of the risks encountered by MSMEs.

Reference:

- Arena, M., Arnaboldi, M., & Azzone, G. (2010). The organizational dynamics of enterprise risk management. *Accounting Organizations and Society*, 35(7), 659-675. <https://doi.org/10.1016/j.aos.2010.07.003>
- Beasley, M. S., Clune, R., Hermanson, & D. R. (2005). Enterprise risk management: An empirical analysis of factors associated with the extent of implementation. *Journal of Accounting and public policy*, 24(6), 521-531. <https://doi.org/10.1016/j.jaccpubpol.2005.10.001>
- Brustbauer, J. (2016). Enterprise risk management in SMEs: Towards a structural model. *International Small Business Journal*, 34(1), 70-85. <https://doi.org/10.1177/0266242614542853>
- Callahan, Carolyan, & Solieau, J. (2017). Does enterprise risk management enhance operating performance? *Advances in Accounting*, 37, 122-139. <https://doi.org/10.1016/j.adiac.2017.01.001>
- Crane, L., Gantz, G., Issacs, S., Jose, D., & Sharp, R. (2013). *Introduction to risk management*. (2nd edn.). United States: Extension risk management education and risk management agency. <http://extensionrme.org/pubs/introductiontoriskmanagement.pdf>
- Duong, L. (2009). *Effective risk management strategies for small and medium enterprises and micro companies. A case study of Viope Solutions Ltd.* [degree thesis]. Arcada University of Applied Sciences, Helsinki, Finland.
- Eckles, D. L., Hoyt, R. E., & Miller, S. M. (2014). Reprint of: The impact of enterprise risk management on the marginal cost of reducing risk: Evidence from the insurance industry. *Journal of Banking Finance*, 49, 409-423. <https://doi.org/10.1016/j.jbankfin.2014.10.006>
- Faisal, M. N. (2016). Assessment of supply chain risks susceptibility in SMEs using digraph and matrix methods. *International Journal of Industrial and Systems Engineering*, 24(4), 441-468. <https://doi.org/10.1504/IJISE.2016.080288>
- Florio, C., & Leoni, G. (2017). Enterprise risk management and firm performance: The Italian case. *The British Accounting Review*, 49, 56-74. <https://doi.org/10.1016/j.bar.2016.08.003>
- Hoyt, R. E., Liebenberg, A. P., (2011). The Value of Enterprise Risk Management, *Journal of Risk and Insurance*, 78(4), 795-822. <https://doi.org/10.1111/j.1539-6975.2011.01413.x>

- Hudakova, M., Masar, M., Luskova, M., & Patak, M. R. (2018). The dependence of perceived business risks on the size of SMEs. *Journal of Competitiveness*, 10(4), 54-69. <https://doi.org/10.7441/joc.2018.04.04>
- Islam, M. A., Tedford, J. D., & Haemmerle, E. (2018). Managing operational risks in Small-and Medium-sized Enterprises (SMEs) engaged in manufacturing an integrated approach. *International Journal of Technology, Policy and Management (IJTPM)*, 8(4), 420-441. <https://doi.org/10.1504/IJTPM.2008.020167>
- Lechner, P. & Gatzert, N. (2018). Determinants and value of enterprise risk management: Empirical evidence from Germany. *European Journal of Finance*, 24(10), 867-887. <https://doi.org/10.1080/1351847X.2017.1347100>
- Liebenberg, A. P., & Hoyt, R. E. (2003). The determinants of enterprise risk management: Evidence from the appointment of chief risk officers. *Risk Management and Insurance Review*, 6(1), 37-52. <https://doi.org/10.1111/1098-1616.00019>
- Mwangi, M. L. K. (2014). *The relationship between risk management and firm performance of the top 100 small and medium enterprises in Kenya*. (Masters Dissertation, University of Nairobi, Nairobi, Kenya). <http://erepository.uonbi.ac.ke/handle/11295/76234>
- Nayak, N., Akkiraju, R., Mantripragada, N., & Torok, R. (2010). *A knowledge-based decision support tool for enterprise risk management*. IBM Research Report. IBM TJ Watson Research Centre, PO Box 218, Yorktown Heights, NY 10598, USA, 7 June.
- Nurlaela, S., Mursito, B., Kustiyak, E., Istiqomah, & Hartono, S. (2019). Asset turnover, capital structure and financial performance consumption industry company in indonesia stock exchange. *International Journal of Economics and Financial Issues*, 9(3), 297-301. <https://doi.org/10.32479/ijefi.8185>
- Nyagah, B. K. (2014). *The effect of enterprise risk management on financial performance of pension funds management firms in Kenya* (Masters Dissertation, University of Nairobi, Kenya). <http://erepository.uonbi.ac.ke/handle/11295/74655>
- Olasanmi, O. O. & Ojubanire, O. A. (2020). Technological Innovativeness and Business Financial Performance of Medium Sized Enterprises in Southwestern Nigeria. *The International Journal of Business and Management*, 8(3), 169 – 174. <https://doi.org/10.24940/theijbm/2020/v8/i3/BM2003-037>
- Oyelaran-Oyeyinka, B. (2019). *SME: Issues, Challenges and Prospects*. Financial system Strategy 2020, paper presented at the FSS 2020 international conference, Nigeria. https://www.cbn.gov.ng/fss/wed/SME_Issues,%20Challenges%20and%20Prospects_Oyeyinka%20Banji.pdf
- Pereira, L., Tenera, A., Bispo, J., & Wemans, J. (2015). A risk diagnosing methodology web-based platform for micro, small and medium businesses: Remarks and enhancements. *Communications in Computer and Information Science*, 340-356. https://doi.org/10.1007/978-3-662-46549-3_22

- Risk, E. (2007). *Statements on Management Accounting Enterprise Risk Management: Tools and Techniques for Effective Implementation*. www.imanet.org
- Shad, M. K. & Lai, F.W. (2015). Enterprise risk management and firm performance validated through economic value-added factors. *International Journal of Economics and Statistics*, 3, 148-154.
- Shahzed, A. M., Holt, B., & Freeman, J. (2013). Enterprise Risk Management: A New Way of Looking at Risk Management at an Organisational Level. *Oradea Journal of Business and Economics*, 3(4), 1-19.
- SMEDAN. (2013). *Survey report on Micro, Small and Medium Enterprises (MSMEs) in Nigeria. 2013 National MSME collaborative survey*. Collaboration between National bureau of Statistics (NBS) and the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN). Available at www.smedan.gov.ng.
- Verbano, C., & Venturini, K. (2011). Development paths of risk management: Approaches, methods and fields of application. *Journal of Risk Research*. 14(5), 519-550. <https://doi.org/10.1080/13669877.2010.541562>.
- Yamane, T. (1973). *Statistics: an introductory analysis*. New York: Harper & Row, USA
- Zou, X, & Hassan, C. H. (2017). Enterprise risk management in china: The impacts on organizational performance. *International Journal of Economic policy in Emerging Economies*, 10(3), 226-239. <https://doi.org/10.1504/IJEPEE.2017.086628>