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Firm Size, Operational Risk and Financial Performance: Evidence from Commercial and Services companies listed in Nairobi Securities Exchange

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ABSTRACT

The study sought to assess the financial performance of the companies listed in the commercial and services sector at the Nairobi Securities Exchange (NSE), Kenya with an aim of determining the implications of firm size and operational risk on their performance. It was anchored on the agency theory. The study applied explanatory research design and the target population was the 14 companies listed under this sector. Secondary panel data contained in published annual reports for the year 2013 to 2017 was collected. A panel regression model was applied with the random effect model being used based on the Hausman specification test. Findings showed that operational risk had a positive insignificant effect on performance as proxied by return on assets (ROA). The findings further showed that firm size had a moderating effect on the relationship between operational risks and performance. It concluded that firm size played a role in the risk management of a company i.e. companies with higher total assets managed risk better than their counterpart. The study recommends that for companies to record improved financial performance, they needed to manage their operational risks by implementing risk management initiatives and increasing their total assets base.

Key Words: *Firm Size, Operational Risk, Financial Performance, Commercial and Services Companies, Nairobi Securities Exchange*

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1. Introduction

Commercial and Services companies fulfil an intermediary function in the economy (Armstrong, 2017). Their business activities involve connecting the producers with the end consumers. In playing the intermediary role, these companies offer storage, transfer, distribute and sale of the products and services (Kihooto, Omagwa, Wachira & Emojong, 2016). Global trends affecting performances of commercial companies include increased competition, changes in management structures, customer services management and even rising fuel prices that are reducing the revenues posted by businesses in the airline that fall under this sector (Agarwal, 2011, KPMG, 2018). Other global trends indicate that digital platforms are taking precedence in customer relationships managements amongst other revenue generation processes for example, purchase of air tickets is being done online, retail consumer purchases are being done through e-commerce websites of such as Amazon and Alibaba (Qicheng & Wei, 2017). In Kenya, the last few years has seen the performance of companies listed under the Commercial and Services sector on the NSE experience mixed fortunes with at least 25 per cent of the total firms that issued profit warnings from the year 2013 up to 2017 originating from companies in this sector. For example, Longhorn Publishers which is listed under commercial and services segment has been reporting sterling performance between 2013 and

2017 (NSE, 2017; Longhorn Publishers, 2018). The national airline carrier, Kenya Airways (KQ), which is also listed under the commercial and services segment reported the country's worst ever corporate results in history $258 million for the year 2015-2016 (Kenya Airways, 2016; Okoth & Achuka, 2016).

Performance has been defined historically as a gauge over a time on the health of a company (Agustina & Baroroh, 2016). Performance gauges how well a business uses its assets to maximise returns on investments by its stakeholders (Mwangi, Makau & Kosimbei, 2014). How well or poorly a firm performs has been linked to risks taken by management of the firms and risks therefore remain a significant factor especially when they affect companies' performance (Muriithi, 2016). Risk can yield the possibility of both pleasant surprises as well as adverse business results with a general hypothesis that there is a direct correlation between the amount of risk taken and the potential for return (Gentry & Pike, 1970; Stulz, 1996; Woods, 2008; Kinyua, Gakure, Gekara, & Orwa, 2015; Were, 2015). In this study, the risk factor was broken down to operational risk. Companies listed in this segment have undergone operational changes. For instance, Eveready East Africa Limited and Sameer Africa Limited in order to avoid risk of closure, these companies have opted to remain afloat by importing batteries and tyres respectively from China (Otuki, 2016; Eveready, 2016; Sameer, 2017).

Firm size plays a big role in terms of competitive advantage due to economies of scale, which can range from financial, organizational to technical. Other benefits as a result of scales of economy that occur from firm size include negotiating for favourable interest and discount rates, efficient use of human and technical resources and specialization of production (Pervan & Višić, 2012; Odalo, Achoki &Njuguna, 2016). In this study, firm size refers to total value proxied by the monetary measure of total assets. It is assumed a positive relationship exists between firm size and profitability (Ammar, 2003; Amato & Burson, 2007; Pervan & Višić, 2012). Other differing theories include one from Amato and Wilder (1985) that states that the bigger the firms, the more the principal- agency problem. This is because managers pursuing self-interested goals control the risk investments undertaken therefore substituting the objective of profit maximization. Firm size was included as a moderating variable for the possibility of determining the implications of firm size and operational risk on performance of companies in this sector.

2. Research Problem

Twenty-five percent of the companies in Nairobi Securities Exchange having dismal performances and almost on the verge of collapsing in the period between the years 2013 to 2017 were from the Commercial and Services sector (CMA, 2016). The period 2013 to 2017 also saw companies previously listed in other market segments such as auto-mobiles and manufacturing sectors of the NSE downsizing their operations to the extent of being registered under the Commercial Services sector. Further, at least four of the fourteen companies listed under this sector have previously been suspended from Nairobi Securities Exchange (Agustina & Baroroh, 2016; NSE, 2017). Liquidity problems and lack of proper management in place are have been cited as some reasons for suspension from NSE (Kihooto, Omagwa, Wachira & Emojong, 2016). With several previous studies on this study jurisdiction having focused liquidity risks and performance of insurance firms and financial institutions, and used firm size as an explanatory variable, the finding may not be generalized to the commercial and service industry (Mathuva, 2009; Wanil and Ahmad, 2013; Kamau & Njeru, 2016; Mutua, 2016; Isiaka, 2018). Instead of using firm size as an independent variable, it was however introduced in this study to test the moderating effect on the relationship between operational risk and performance of commercial and services companies on NSE, Kenya. In addition, the researcher

sought to specifically assess whether financial performance of the companies listed in the commercial and services sector at the Nairobi Securities Exchange (NSE), Kenya were prone to collapsing due to operational risks with an aim of determining the implications of firm size on operational risk and financial performance.

3. Objectives of the Study

i. To examine the effect of operational risks on the financial performance of commercial and services companies on Nairobi Securities Exchange, Kenya.

ii. To determine the moderating effect of firm size on the relationship between operational risk and financial performance of commercial and services companies on Nairobi Securities Exchange, Kenya.

4. Theoretical Review

The study was supported by the agency theory. This theory emerged in the 1970s (Mitnick, 1973; Bendickson, Muldoon, Liguori & Davis, 2016). According to Jensen and Meckling (1976), Fama (1980), the agency problem began when and where the directors of public companies who were considered the agents took actions which were assumed riskier and contrary to that of the owners or the principals. Normally, the managers and shareholders have diverse interests. Consequently, their risk appetites vary. When company report profit warnings and are on the verge of collapsing then the conflicts between the managers and the shareholders emerge. The main objective of the agency theory was to bring out the possible effects of mismatch between decisions undertaken by the management team versus the shareholders' best interests. This makes agency theory significant and the main theory that the study was anchored as it is linked to the study variables financial performance, firm size and operational risks.

5. Empirical Review

Sheng (2018) investigated the effect of financial risk on performance of logistics and transportation companies in Malaysia. Operational risk and credit risk were used as explanatory variables for the study. ROA and ROE were employed as proxies to performance. Multiple regression model was used for analysis. From the findings operational risk and credit risk had a significant effect on performance of logistics and transportations companies in Malaysia. Even though the study was carried out in Malaysia, the findings may not be relevant to Kenyan contexts due to economic and technological differences. Furthermore, the logistics and transportation companies are just a fraction of the companies listed under commercial and services segment. Hence this research gap was addressed by conducting a census of companies listed under commercial and services companies and contextualized the findings in a Kenyan perspective.

Isiaka (2018) studied liquidity risk effect on insurance companies' performance listed in Nigeria. Liquidity risk was the independent variable with the proxy being claim loss ratio, premium growth and leverage. For firm performance, ROA was used as proxy. The study adopted panel multiple regression techniques. The findings revealed that leverage had a significant negative effect on return on assets. While the claim loss ratio has insignificant negative influence on return on assets while premium growth has positive and insignificant effect on firm performance of listed insurance companies in Nigeria. Even though the units of measure of the dependent variable i.e. performance may be similar, the findings from the insurance industry may not be relevant to this study as the risk variable was measured based on premiums and claim loss ratio while this research study's risk variable was the operational risks which were measured by cost to income ratio.

Olawale, Luqman, Bamidele, Lawal and Fatai (2017) sought to investigate performance and firm size of firms listed in Nigeria Securities Exchange. Total assets and total sales were the proxies for firm size while ROE was proxy to financial performance. Pooled regression model was employed. From the findings firm size had a favourable significant relationship on return on equity while findings on total asset had a negative significant relationship on return on equity. Instead of using firm size as an independent variable, it was however introduced to test the moderating effect on the relationship between operational risk and performance of commercial and services companies on NSE, Kenya.

Kamau and Njeru (2016) investigated the effect of liquidity risk on performance of insurance companies listed on the NSE in Kenya. The study looked at liquidity risk as the explanatory variable of the study while return on equity as a proxy to performance. Descriptive research design was utilized while employing multiple regression model for the analysis. The study was supported by extreme value theory, credit risk theory and capital Structure Theory. The study found out that market risk, credit risk and operational had a negative significant effect on return on equity of the insurance companies listed on the Nairobi Securities Exchange. Instead of focussing on insurance industry, this research sought to add value by selecting and focussing on Commercial and Services companies listed at the NSE thus filling the contextual gap.

Wanil and Ahmad (2013) conducted a research on liquidity risk and performance of Indian Insurance Industry. Current ratio was utilized as a measure to liquidity risk while ROA was employed as representation of financial performance. Secondary data extracted from the financial statements was employed in the study. Multiple regression model was used in the study. From the findings liquidity risk had a positive statistically significant relationship on return on asset of insurance industry in India. The study recommends that liquidity risk is a poll factor for financial performance of Indian insurance firms. Even though the study was carried out in India, the findings may not be relevant to Kenyan contexts due to economic and technological differences between these two countries. Hence the need to for this research to contextualize the findings from Kenyan economical view.

Omondi and Muturi (2013) sought to investigate firm size and performance of listed companies at Nairobi Securities Exchange in Kenya. Total asset was employed as proxy to firm size while return on asset as proxy to performance of the companies in the study. Secondary data was extracted from the listed companies at NSE except the insurance firm and banks which were excluded from the sample data. Multiple regression model ascertained the effect of firm size on ROA in the study. The study found out that firm size had a positive significant effect on return on asset among companies under study in NSE. The research will add value to research literature in the following ways. First by investigating the moderating effect of firm size on the financial risk-performance relationship in NSE. Secondly, the researcher introduced a different independent variable i.e. operational risk and studied its effect on financial performance.

Mathuva (2009) sought to conduct a study on the effect of operational risk on performance of commercial banks in Kenya. Cost to income was used as proxy to operational risk while ROA and ROE as proxy to performance. Panel regression was employed as the model for the study while minitab software was used to ascertain the significance levels of the research constructs. The research findings showed that operational risk is inversely related with both ROA and ROE. The banking sector is regulated, and its operations are controlled by the central banks. Therefore the findings from this study cannot be replicated to a different market segment with different economic factors. The researcher therefore conducted a study the commercial and service listed on NSE in Kenya between the years 2013 to 2017.

6. Conceptual Framework

The study's variables are represented in Figure 1. The operational risk is the study's independent variables and was measured using the cost to income ratio. ROA represented firm performance. The size of the firm which was considered a moderating variable was proxied by the total assets. The researcher explored using return on assets (calculated by applying net income over the total assets) as a measure of financial performance. Data on the net income for all these companies under study was readily available and was consistently applied in the same time period and on the absolute value of total assets of these companies. Operational risk on the other hand was proxied by cost to income ratio as used in previous studies (Muriithi, 2016; Mathuva, 2009).

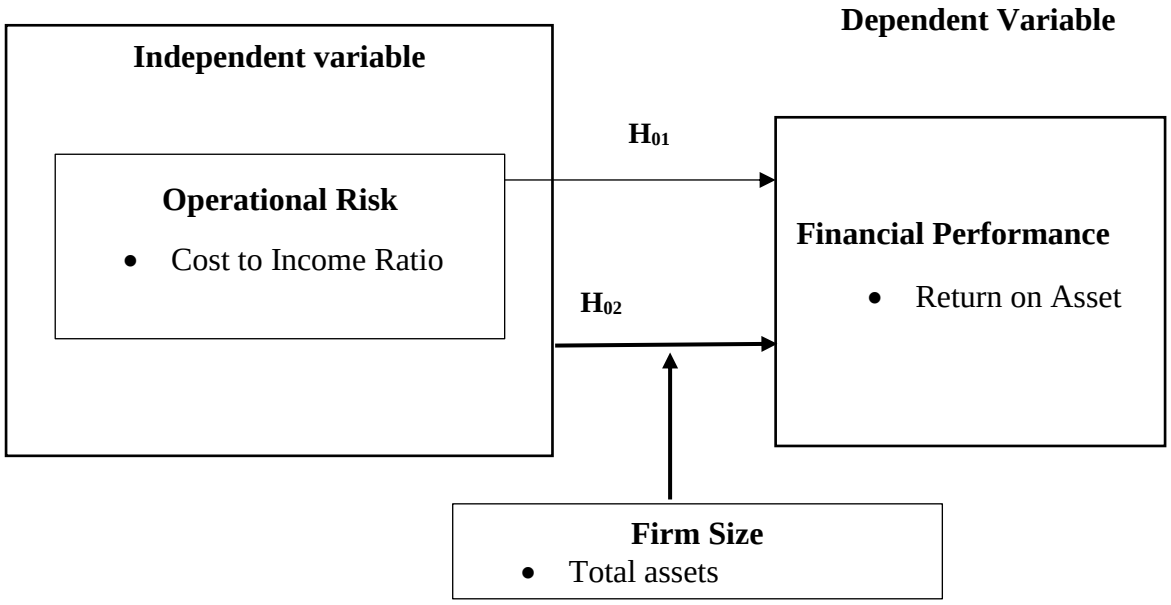

Figure 1: Framework for Conceptualisation

Source: (Researcher, 2018)

7. Research Methodology

The researcher adopted an explanatory design for research. According to Maigua and Mouni (2016), the main advantage of explanatory designs is, it allows connection of thoughts to apprehend reason and effect. The research employed a panel data regression model to analyse the effect of operational risks on the performance of Commercial and Services listed companies on Nairobi Securities Exchange, Kenya between the years 2013 to 2017. A panel data model was suitable for this research because of the independent variables, time factor and cross-sectional dimensions of the companies listed in the commercial and services sector (Aiken & West,1991; Wooldridge, 2010). The study target population was fourteen companies (14) in the Commercial and Services market segment of the NSE for the period of study covering 2013 to 2017 (NSE, 2017). Due to the small number of companies, the study used a census methodology. The study utilized Whisman and McClelland (2005) two-step procedure for moderation effect. Where in the first step firm size was used as an explanatory variable. In step two, firm size was introduced and the interaction between operational risk and firm size proxy was established.

8. Data Analysis Results

The study's objective was to determine the impact of operational risk on performance of commercial and services companies on NSE, Kenya. A null sub hypothesis was formulated to achieve this objective, H_0, that operational risk does not affect performance of commercial and services businesses on NSE, Kenya.

Table 1: Regression results with ROA as the Dependent Variable

ROA	Coefficient	Standard Error	z	P>|z|
Operational risk	.0286846	.121538	0.24	0.814
F statistics = 8.13 Prob > chi^2 = 0.0002				

Source: Study Data (2018)

The outcome in Table 1 showed the coefficient of operational risk (β= 0.0286846, p= 0.814>0.05) shows that the association between operational risk and results is positive and statistically insignificant of commercial and services companies on NSE, Kenya. Consequently, the null assumption that operational risk does not have a major impact on the performance of business and service businesses on NSE in Kenya was not dismissed at a meaning rate of 5% as per the sample. The findings are consistent with (Mathuva, 2009) whose study found out that operational risk is inversely related with return on assets.

Table 2: Effects of Firm Size as an explanatory variable on ROA

ROA	Coef.	Std. Err	z	P>|z|
Operational risk	.0160829	.1230918	0.13	0.897
Firm size	-.012185	.0154908	-0.79	0.436
cons	-0.005292	.2511293	-0.02	0.983
R-sq: Within = 0.3554 F statistics = 6.20 Prob > chi2 = 0.0005				

Source: Study Data (2018)

The result in Table 2 indicates an R squared of 0.3554. This implies that operational risk and firm size had a 36% explanatory power on return on asset of commercial and services companies of NSE in Kenya. This indicates that a combination of these variables can explain variation in return on asset. The F statistics value was 6.20 with a p value of 0.0005 which is less than 0.05. This indicates that financial risk and moderator variable firm size were jointly significant in explaining variations in return on asset and that financial risk and firm size jointly contributes significantly to changes in the return on asset of commercial and services companies on NSE in Kenya.

Table 3: Firm Size as a moderator between operational risk and return on asset (ROA)

ROA	**Coef.**	**Std. Err**	**z**	**P>|z|**
Operational risk	1.962311	1.540249	1.27	0.210

ROA	Coef.	Std. Err	z	P>|z|
Firm size	0.035134	.0498972	0.70	0.485
Operational risk*firm size	-.1203436	0946054	-1.27	0.210
_cons	-0.808064	.8161401	-0.99	0.328
R-sq: Within = 0.3848 F statistics = 3.75 Prob > chi2 = 0.0030				

Source: Study Data (2018)

The outcome in Table 3 shows that when firm size was introduced as moderator, the model had slightly high explanatory power on return on asset as it accounted for 38 percent of return on asset of commercial and service companies in NSE in Kenya. This means that a combination of operational risk and firm size as a moderator to an extend explains variation in return on asset. The F statistics value was 3.75 with a p value of 0.0030 which is less than 0.05. This indicates that financial risk and firm size a moderator are jointly significant in explaining variations in return on asset of commercial and service companies in NSE in Kenya.

9. Conclusions

The study did not find a relationship between operational risk and financial performance. This means that operational risk did not have any effect on the financial performance of the commercial and services businesses. This implies that for companies to generate more return on assets, they did not have to put significant effort to manage their financial risks as proxied by ratios. The study however indicated that operational risk and firm size a moderator are jointly significant in explaining variations in the performance of commercial and service companies. The study concluded that companies with firm size affected the relationship between operational risks and financial performance. Companies with higher total assets value are better placed to report better performances and manage risks better than their counterpart

10. Recommendations

Based on the results, the research recommends that further study be done on the effect of financial risk and performance on non-listed commercial and services companies in Kenya and can expand scope to include regional companies in the sub-Saharan Africa region since this study focussed only on listed commercial and service companies in Nairobi Securities Exchange, Kenya.

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