

REVIEW ARTICLE

EFFECT OF TECHNICAL COMPETENCE ON FIRM PERFORMANCE

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ABSTRACT

The objective of the study was to determine the effect of technical competence on the performance of firms listed on the Nairobi Securities Exchange and the corresponding hypothesis was formulated and tested. The study targeted Human resource managers of each of the 64 firms listed on the Nairobi Securities Exchange as at December, 2014, and 34 of them responded. The study adopted the positivist research philosophy and a descriptive survey design. SPSS Version 21 was used to analyze data using regression analysis. Research findings from the test of the hypothesis established that technical competence has positive and significant effect on firm performance. The study finding supports the Resource-Based View and Knowledge Space Theory which underscore the crucial role of technical competence in firm performance. The study recommends further investigation of the study variables in non-governmental organizations, academic institutions and churches.

INTRODUCTION

Technical competence refers to “the set of professional skills, abilities, and knowledge which specifically deal with the technical aspects of the job, essential to carry out specific functional or task-related activities” (Janjua, Naeem, and Kayani, 2002, p.398) whereas firm performance is a collection of financial and non-financial indicators which provide information on the degree of achievement of objectives (Lebans and Euske, 2006). Technical competence is positively related to firm performance (Tiraieyari, Idris, Hamzah and Uli, 2009). Therefore, firms that direct their efforts towards development of technical competence of their managers tend to achieve better performance than their competitors. According to Knowledge Space Theory, competencies predict performance outcomes and provide an explanation for discrepancies in performance (Korossy, 1999). Thus, determining a set of problems and identifying a set of corresponding competencies can significantly assist firms to enhance their performance. According to the Resource-Based View, (Barney, 1991), competence is a resource relevant for competitive advantage, since it supports competitive advantage as it mainly fulfills the requirements of being valuable, rare, inimitable and non-substitutable. The Resource-Based View justifies variations in performance between firms because of companies because of knowledge asymmetries (Hoopes, Madsen and Walker, 2003). Empirical research has shown positive effect of technical competence on firm performance (Tiraieyari et al., 2009; Rezaie, Alambeigi, and Rezvanfar, 2008).

However, most of the cited studies targeted Education, Health and ICT sectors in the global west and no single such. This study in the Kenyan context known to the researcher, this study attempted to investigate the effect of technical competence on the performance of firms in different industries in Kenya as listed on the Nairobi Securities Exchange (NSE).

Technical Competence

According to Janjua et al., (2012), technical competencies include vocational and technical skills which are necessary for the accomplishment of task-related objectives of the job. Technical competence covers the “understanding of and proficiency in managing specific technical tasks” (Katz, 1974, p.91). Therefore, technical competencies encompass proficiency in technical tasks and areas appropriate to the specific job. Therefore, individuals who are technically competent possess technical skills and knowledge which enable them to achieve the set targets in their technical areas.

Firm Performance

Firms measure firm performance differently. Some measures of firm performance include return on investment (ROI), and market share growth (Droge and Vickery, 1994); market share, sales, export proportions and growth rates in domestic and export sales growth (Sharma and Fisher, 1997). Other studies have measured firm performance through profitability, gross profit, revenue growth, stock price, sales growth, export growth, liquidity and operational efficiency and the Balanced Scorecard (Anwar et al., 2012; Kaplan and Norton, 1992). The Balanced Scorecard adopted by the current study examined firm performance from the perspectives of the customer, learning and growth, internal business processes, environment

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and finances (Anwar *et al.*, 2012; Kaplan and Norton, 1992). The selected tool is appropriate for this study because it is a multidimensional approach, which does not leave any key technical area in the organization unturned (Anwar, Djakfar and Abdulhafidha, 2012).

Firms Listed on the Nairobi Securities Exchange

The Nairobi Securities Exchange, formerly known as Nairobi Stock Exchange until July 2011, was formally recognized in 1954 by the London Stock Exchange as an overseas stock exchange (Nairobi Stock Exchange, 1996). It has grown to become a major financial institution as it has the fourth largest trading volume across the African continent and plays an important role in the growth of Kenya's economy (Olweny and Kimani, 2011). There were 64 companies listed on the Nairobi Securities Exchange as at 31 December 2014 (NSE Handbook, 2014). Since these firms represent key sectors of the Kenyan economy, which include Agriculture, Commercial, and Services Sector, Financial, and Investment sector and Development industry and Allied sector, Nairobi Securities Exchange was the target for the study. The choice of listed companies for the study is further justified by the requirements for listing which include among others, that for a company to be listed, it must be a company limited by shares and registered under the Companies Act (Cap. 486) as a public limited company and to publish audited financial statements regularly in compliance with international financial reporting standards at the end of each accounting period (The Companies Act, 2015).

For the purpose of compliance, the listed firms issue their audited financial statements, which this study used to measure their financial performance (2012-2014). The group of firms listed on the NSE was considered appropriate for the study because various stakeholders expect them to perform and for them to perform satisfactorily, they would need resources and in particular human resources. The shareholders hold these companies accountable and expect them to facilitate generation of fair profits. The Government of Kenya aims to achieve and sustain an annual growth rate of 10% for it to realize the Kenya Vision 2030 (GOK, 2007) and therefore expects the NSE to play its role as a robust securities market. The NSE, on its part, expects the listed companies to perform and meet the expectations of the stakeholders by enhancing their efficiency and competitiveness. To address the expectations of stakeholders, managers of the listed companies should be competent enough to achieve organizational goals.

Technical Competence and Firm Performance

Technical competence affects performance in organizations. A study by Tiraeyari *et al.* (2009) to establish the relationship between technical skill and job performance, showed that job performance of extension workers was positively related to technical aspects of their job ($R^2 = 0.356$, $p = 0.001$). Similarly, the result of regression analysis in the study of analysis of the job performance of the agricultural extension experts of Iran by Rezaie, Alambeigi, and Rezvanfar (2008) established that technical competence contributes 48.6% of the variance in job performance of extension workers. For the purpose of this study, the following hypothesis was formulated: Technical competence has a positive and significant effect on

the performance of firms listed on the Nairobi Securities Exchange.

METHODOLOGY

This study adopted a positivist philosophical tradition and a cross-sectional descriptive survey of all the 64 companies listed on the Nairobi Securities Exchange as at 31 December, 2014. Primary data was collected from human resource managers or equivalent persons. Secondary data on financial performance (ROA) of Nairobi Securities Exchange listed companies was extracted from the audited accounts for a three year period, 2012-2014. Instrument validation was achieved through validity and reliability tests. Professionals in human resource management censured content validity. The researcher confirmed face validity by checking the coverage of all the areas of investigation in the questionnaire and by adopting already tested instruments used by similar studies. This was done to compliment the validity tests done by previous studies from which the research instrument was adapted. A reliability test of the collected data was performed using Cronbach Alpha and the coefficient for technical competence and firm performance was 80.3 above the minimum level (0.70) for acceptable reliability as suggested by Nunnally and Bernstein (1994). This means that the data collected was reliable for analysis.

RESULTS AND ANALYSIS

The study used both descriptive and inferential statistics to analyze data from the questionnaires and from the published audited accounts. Simple linear regression analysis was used to establish the nature and magnitude of the relationship between the independent variable and the dependent variable and to test the predicted relationship. The value of R^2 shows the amount of variation in the dependent variable caused by the independent variable. The Beta values show the amount of change in the dependent variable attributable to the amount of change in the predictor variable. The F-statistics measure the goodness of fit of the model. The statistical significance of the hypothesized relationship was interpreted based on R^2 , F, t, β and p values. The regression model used was: $Y = \beta_0 + \beta_1 X_1 + \epsilon$, where Y =Firm performance; β_0 = Intercept; β_1 = Coefficient; X_1 =Technical Competence and ϵ =Error term.

Study Response Rate

The target population of the study was 64 companies listed on the NSE as at 31 December, 2014. These companies form the unit of analysis for the study as each firm has a unique set of technical competencies. Out of the 64 questionnaires issued to Human Resource Managers or equivalent officers, a total of 34 were filled and returned in a form usable for analysis, constituting a response rate of 53.1 %. The study response rate of 53.1 % was considered adequate for purposes of data analysis compared to a previous study done in the same area by Sagwa (2014) who had 60 %.

Profile of Firms

The 34 firms that were surveyed represent the major sectors of Kenya's economy.

Table 7.1. Distribution per Sector

Sector	Frequency	Percentage
Agricultural	2	5.9
Commercial and services	4	11.8
Automobiles & Accessories	2	5.9
Banking	11	32.3
Insurance	2	5.9
Manufacturing & Allied	6	17.7
Construction & Allied	3	8.8
Energy & Petroleum	2	5.9
Growth Enterprise Market Segment	1	2.9
Investment	1	2.9
Total	34	100

Table 7.2. Distribution of Companies by Ownership, Number of Employees and Year of Establishment

Ownership	Frequency	Percentage	Year of Establishment	Frequency	Percentage
Locally Owned	23	67.65	1-30	3	9.82
Foreign Owned	11	32.35	31-60	18	51.94
Total	34	100	61-90	6	17.65
Number of Employees			Over 90	7	20.59
Less than 100	6	17.65	TOTAL	34	100
100 to 300	3	8.82			
301 to 500	5	14.71			
501 to 700	4	11.76			
Over 700	16	47.06			
TOTAL	34	100			

Table 7.3. Model Summary should be aligned with ANOVA and Coefficients i.e. above Model 1

Model		R	R Square	Adjusted R Square		Std. Error of the Estimate
1		0.671	0.450	0.433		9.45692
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2346.253	1	2346.253	26.235	.000 ^b
	Residual	2861.865	32	89.433		
	Total	5208.118	33			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	42.260	11.924		3.544	0.001
	Technical Competence	14.863	2.902	0.671	5.122	0.000

Dependent Variable: Firm Performance

Predictor Variable: Technical Competence

Frequencies and percentages were used to examine the distribution of companies listed on the NSE. Table 7.1 shows how the firms that responded to the study questionnaire are distributed per sector. The findings in Table 7.1 indicate that out of the 34 firms that participated in the study, 32.3 % were in the banking sector; 17.7 % in the manufacturing and allied; 8.8 % in the construction and allied; 11.8 % in commercial and services; 5.9 % in Agriculture, insurance and energy and petroleum; 2.9 % in growth enterprise market segment and investment. The majority of the companies that responded to the questionnaire were in the banking sector (32.3%) and manufacturing and allied (17.7%). Sagwa (2014) had similar findings: 22.2 % for banking sector and 25 % for manufacturing and allied. Thus, most of the listed firms on the NSE (61.76%), which responded, are in the banking sector, manufacturing and allied and commercial and services sectors. These firms play a major role in the economic development of Kenya. Table 7.2 shows the distribution of firms by ownership, number of employees and year of establishment. As indicated in Table 7.2, firms listed on the NSE are either owned by locals or foreigners and their years of establishment and number of employees differ.

The information on firm ownership shows that firms listed on the NSE may be classified depending on who owns a majority of shares between local and foreign investors. Those with over 50 % local ownership are referred to as majority locally-owned and those with over 50 per cent foreign shareholding are referred to as majority foreign-owned. Out of the 34 that responded, 23(67.65%) were majority owned by local investors, whereas 11(32.35%) were majority owned by foreign investors. This implies that the NSE predominantly consists of locally owned companies. With regard to the level of employment, Table 7.2 shows that 47.06 per cent of the firms listed on the NSE had more than 700 employees. The figure further shows that cumulatively 73.53 % of the firms had more than 300 employees. The fact that there are 75.53 % of the firms with more than 300 employees implies that a majority of the firms listed on the NSE are large and mature. From the analysis in Table 7.3, it is evident that firms that have been in existence for 1-30 years accounted for 9.82 %, 31-60 (51.94%) , 61-90 (17.65 %) and over 90 years, (20.59 %). The analysis shows that most of the firms were between 31-60 years in terms of age. The fact that 90.18 % of listed companies on the NSE have been in existence for over 30

years implies that they are mature and established and must have developed appropriate management competencies to enhance their performance.

Test of the Hypothesis

The study sought to determine the effect of technical competence on the performance of companies listed on the Nairobi Securities Exchange. This was done by testing the hypothesis that technical competence has a significant effect on firm performance by performing simple linear regression analysis. Table 7.3 presents the results of the analysis.

DISCUSSION

From the results in Table 7.3, $R=0.671$, meaning that there was a strong positive correlation between the independent variable and the dependent variable. The R-squared is 0.450, indicating that 45 % of the variation in firm performance is explained by variation in technical competence and 55 % is explained by other factors that are not part of the study. The ANOVA results indicate that the model is statistically significant ($F= 26.235$, $p<0.05$). The standardized coefficients show that the effect of technical competence on firm performance is positive and significant ($\beta=0.671$, $t=5.122$, $p<0.05$). The beta value implies that for one unit increase in technical competence, performance increased by 0.671. The findings therefore confirm the hypothesis that technical competence has a significant effect on the performance of firms listed on the NSE. The results of the analysis suggest that companies listed on the NSE should consider developing technical competence to enhance their performance. The study findings agree with the result of a study by Rezaie *et al.* (2008) who established that competence contributed 48.6 % of the variance in job performance of extension workers. Though the respondents were extension workers, the study compares favorably with the current study where technical competence contributed 45 % of the variation in firm performance. Consistent with the findings of the current study also are the results of a study conducted by Tiraieyari *et al.* (2009) which established that job performance of extension workers was positively related to technical aspects of their job ($R\text{- Squared} = 0.356$, $p = 0.001$).

Conclusion

The study investigated the effect of technical competence on the performance of companies listed on the Nairobi Securities Exchange. The study was conducted through a cross-sectional survey. The study employed both descriptive and inferential statistics to analyze the data. Simple linear regression analysis was used to determine the effect of technical competence on firm performance. The study tested and confirmed the hypothesis that technical competence has a significant effect on the performance of firms listed on the Nairobi Securities Exchange. This implies that Nairobi Securities Exchange listed companies that invest in the development of technical competence of their managers expect an improvement in their performance.

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