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Relationship between Intellectual Capital and Performance of Small and Medium Manufacturing Enterprises in Kenya

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ABSTRACT

Purpose:
The purpose of the Study was to establish the relationship between intellectual capital and performance of small and medium manufacturing enterprises in Kenya.

Design/methodology/approach:
The study adopted positivist philosophy. The research designs were descriptive survey as well as explanatory research design. The target population consisted of all the small and medium manufacturing enterprises in Kenya with a sample of 183 respondents comprising of one respondent from each firm, being either the Managing director, General Manager, Production Manager or Strategic Manager. Data analysis was conducted using descriptive statistics and inferential analysis.

Findings:
The study concluded that intellectual capital had no significant influence on performance of small and medium in Kenya and therefore investment in intellectual capital should be economically justified.

Research limitations/implications:
The data used in the study was collected for a period of ten years only and the results may not be used to make long term inference regarding the relationship that exist between the study variables.

Originality/value:
The findings of this study significantly contribute to the existing pool of knowledge regarding the concept of intellectual capital and its implications on organizational performance. Scholars and other researchers would find the outcomes of this study relevant as reference material to advance in their research.

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1. Introduction

Arising from the turbulent business environment tied with stiff competition that the current manufacturing firms operate, these firms are required to search for better competitive approach for modern business as the traditional orientations may not respond adequately in the wake of fundamental business environmental changes (Hatch & Howland, 2015). Keller (2014) observed that organizations require strategic resources such as intellectual capital to compete effectively. Similarly, to effectively compete, manufacturing companies will require to constantly improve their performance by reducing costs, enhancing quality, and differentiating their products. Consequently, the postulations of the Resource Based View (RBV) theory (Penrose, 1959) that firm's recourses such as intellectual capital are key in developing competitive advantage are found relevant in this paper (Teece, 2014). Further, literature supports that for resources to be strategic and thus generate competitive advantage, such resources must be valuable, rare, and imperfectly imitable and non-substitutable (Barney & Hesterly, 2010).

It follows that, intellectual capital, which is also referred to as knowledge assets, business intelligence or intellectual property and which is infinite and rests upon the individual can help manufacturing firms to gain competitive advantage and greater performance (Zott, Amit & Massa, 2011). Further, intellectual capital is viewed as the most important strategic resource since it is hard to imitate and is sustainable over a long period. Intellectual capital is expressed in form of knowledge, experience, ability and skills rooted among employees of the organization. Tactical knowledge acquired by a firm cannot be easily duplicated by rivals, since it is implanted in the human skills and experience of a firm, which leads to profitability (Lazear, 2009). It is thus noted that performance differentials may be attributed to intellectual capital obtained and utilised by the company, having intrinsically different levels of efficiency making them strategic (Rothaermel, 2015).

Research indicates that, across the board, small and medium enterprises are faced by constant threat of failure and most of them never grow into large enterprises (Kamath, 2010; RoK, 2005). Ashton, Russell and Futch (2017) indicated that small and medium enterprises lack adequate resources, adequate management skills and successful marketing strategies. Past studies indicate that the SMEs sector in Kenya is characterized by high mortality rate (RoK, 2005). That is in every five SMEs three of them will fail within the first few months of operation (Bowen, Morara & Mureithi, 2009; RoK, 2015). Over 60 percent of new enterprises started in a year fail within the year (KNBS, 2007) while another 40 percent of survivors are likely to close in the second year (Ellis, 2007) and most do not survive to their third anniversary (Ngugi, 2014). Many SMEs are generally low margin, have very little differentiation and are survival or necessity driven (The Guardian, 2014). This implies that SMEs in Kenya may have failed to identify the relevance of intellectual capital that may help them gain competitive advantage and ultimately superior performance. The reviewed literature showed that many of the previous studies conducted only described the relationship that exist between the various strategic resources and the other study variables but did not go to the extent of determining the nature of the relationship that exist. This study therefore establishes that gaps exist in literature and sought to fill it by establishing the relationship between intellectual capital and performance of small and medium manufacturing enterprises in Kenya.

2. Literature Review

This study was anchored on the resource based view theory advanced by Penrose (1959) which holds that a firm's superior performance is achieved through resources, which are owned and controlled by the firm. Therefore, the focus of the RBV is on attributes of organisational resources and capability (Kraaijenbrink, Spender & Groen, 2010). According to Molloy, Chadwick, Ployhart and Golden (2011), for a firm to have competitive advantage and superior performance, resources have to qualify as exceedingly valuable, rare, inimitable, and non-substitutable. It is noted that resources that are valuable add to advancing the firm's performance. Rareness creates ideal competition in view of the fact that resources in that category are possessed by fewer firms. Inimitable resources are costly to duplicate and non-substitutable, meaning that there is no alternative to accomplishing an equal function instantly available to competitors (Barney & Hesterly, 2010). In this view, the study found that intellectual capital which is inherent in individuals has all the characteristics of strategic resources in that it is valuable, rare, inimitable cannot be substituted. For this reason the study found the theory relevant in explaining the relationship existing between intellectual capital and performance of small and medium manufacturing enterprises in Kenya. Additionally, in this study resource based view theory played a role of evaluating and explaining the capability of a firm to use its intellectual capital to create

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and maintain a competitive advantage and thus higher performance among small and medium manufacturing enterprises in Kenya.

Dzenopoljac, Yaacoub, Elkanj and Bontis (2017) conducted a study to investigate the impact of intellectual capital on innovation in telecommunication companies in Jordan, through the presence of knowledge management as a mediator. The results of the study r revealed that intellectual capital did have a significant impact on knowledge management and the latter on innovation. Similarly, Obeidat, Tarhini, Masa'deh and Aqqad (2017) in their research conducted with the aim of f filling a gap in the intellectual capital (IC) literature by providing insights into the relationship between IC and corporate performance among Arab companies and second and to challenge the validity of the Value Added Intellectual Coefficient (VAIC) as a measure of IC's contribution to performance, they found that earnings and profitability were significantly affected by structural and physical capital; efficiency was determined primarily by physical capital; and market performance was mainly influenced by human capital.

Moreover, Wang, Liang, Wang and Xiang (2018) in their study is to explore the influence of intellectual capital (IC) on firm performance concluded that the three components of IC, namely human capital, structural capital, and relational capital, are positively related to innovation speed and quality, which in turn facilitate the operational and financial performance of a firm.

According to Chu, Chan,Yu, Ng and Wong (2011) intellectual capital represents the relationships with customers and partners, innovation efforts, the infrastructure of the firm and the knowledge and skill of the members of the organisation. Similarly, Vafaei, Taylor and Ahmed (2011) indicated that intellectual capital is that knowledge that can be converted into future profits and comprises resources such as ideas, inventions, technologies, designs, processes and informatics programs. In a study to investigate the influence of intellectual capital and its components, employee capital, structural capital and customer capital, upon their innovation performance Zerenler, Hasiloglu and Mete (2008), established that human capital, structural capital and customer capital had significant positive relationships with innovation performance. However, the study was carried out in the Turkish automotive industry while the current study was conducted on small and medium manufacturing enterprises in Kenya.

Exploring the influence of intellectual capital on the growth of SMEs in Kenya, Ngugi (2014) revealed that innovativeness positively influence the growth of Small and Medium Sized Enterprises in Kenya. A study adopting a descriptive research design to investigate the concept of intellectual capital and financial performance of Kenyan state corporations indicated that the company culture, which contains valuable practices of conducting business, is the major benefit resulting from organizational intellectual capital. The findings also indicated that employees being very highly skilled in their jobs as the major way of human capital to improve the firm's performance (Njuguna & Moronge, 2014). On the other hand, Mungai (2014) sought to establish the relationship between intellectual capital and operational performance of commercial banks in Kenya. The study established that intellectual capital affects the operational performance of commercial banks in Kenya largely.

In addition, studying the influence of intellectual capital on the performance of small and medium enterprises in Mombasa county Kenya, Otor (2015) found that management's technical skills influenced the performance of small and medium enterprises. Although this study was conducted among SMEs, the study was based on SMEs in only one county out of the 47 counties in Kenya. Therefore, its findings cannot be applicable to the whole country. The current study focused on the influence of strategic resources on performance of small and medium manufacturers in Kenya. Finally, while studying the relationship between intellectual capital and performance of firms listed on Nairobi securities exchange, Kariuki, K'Obonyo and Ogutu (2015) conducted a survey of 50 firms listed the study found that there was significant relationship between social capital, organizational capital and non-financial performance.

Based on the reviewed literature, it is evident that there exists empirical literature on intellectual capital from previous research work. However, the study notes that the literature available is limited and previous scholars have measured intellectual capital against other variables in limited scope such as innovation performance, operational performance, financial performance and growth. The study also notes that most of studies conducted were conducted among financial institutions such as commercial banks and insurance companies but no known study has linked intellectual capital and performance of small and medium sized manufacturing enterprises.

3. Methodology

This study adopted positivism philosophy because it maintains that knowledge should be based on facts and no abstractions, thus knowledge is predicated on observations and experiments. The researcher was independent of the researched subject and could not influence the subjects. Cross-sectional descriptive survey as well as explanatory research design. Using the descriptive survey design, the researcher was able to describe the variables of study while explanatory research design was used in order to assess effect of specific changes to explain the patterns of relationships between variables (Sekaran & Bougie, 2010).

The target population for this study consisted of all small and medium manufacturing enterprises in Kenya. According to Kenya Association of Manufacturers (KAM) there are about 350 small and medium manufacturing enterprises in Kenya categorised into 14 sectors (Building, Mining & Construction, Chemical & Allied, Energy, Electrical & Electronics, Food & Beverages, Leather & Footwear, Metal & Allied, Automotive, Paper & Board, Pharmaceutical & Medical Equipment, Plastics & Rubber, Services & Consultancy, Textiles & Apparel, Timber, Wood & Furniture, Agriculture/Fresh Produce). The study adopted stratified and simple random sampling techniques to select a sample of 183 respondents from the small and medium manufacturing enterprises in Kenya representing 52 percent of all the small and medium manufacturing enterprises in Kenya.

Primary data was collected using semi structured, self-administered questionnaire which was tested for validity using content validity and reliability internal consistency via Cronbach's alpha coefficient (α) respectively. The questionnaire contained two sections, the first section covered the demographic characteristics of the respondents while the second section consisted of the research questions on the dependent variable (performance of small and medium manufacturing enterprises) and independent variable (intellectual capital). The independent variable was operationalized into innovation efforts, number of patents, knowledge level and number of new products (Shakya, Patel & Singh, 2016; Pisano, 2015). while performance of small and medium manufacturing enterprises was measured in terms of profitability, sales volume, market share and number of customers as recommended by advised by Chu, et al (2011), Vafaei, et al (2011) and Dumay and Garanina (2013). The respondent were required to respond to the research items on the extent to which they agree with the statements on the aspects of study variables in a 5-point Likert scale where 5- was very large extent and 1 represented no extent.

In this study, data was analysed using descriptive statistics such as frequencies, means and standard deviation and presented inform of tables and graphs as well as inferential analysis using measures such as correlation and multiple regression analysis to establish the nature and magnitude of the relationships between the variables (Jobson, 2012). Correlation analysis was carried out to determine the nature and strength of the relationship that exist among the study variables (Glesne, 2015) while regression analysis was conducted using linear and multiple regression models to determine the extent to which strategic resources affect performance of small and medium manufacturing enterprises in Kenya. The multiple regression model was as follows;

$$FP = \beta_o + \beta_1 INC + e$$

Where: - FP = Firm Performance; β_o = Constant; β_1 = Beta Coefficient; INC= Intellectual Capital
e=Error Term

Results and Discussions

The study used descriptive and inferential statistics to make conclusions on the relationship existing between the study variables. The descriptive statistics provides a summary on the characteristics of the study variables through measures of central tendency: specifically, the mean and the standard deviation. Intellectual capital was operationalised through, innovation efforts, number of patents, knowledge level and number of new products as advised by Chu, et al (2011), Vafaei, et al (2011) and Dumay and Garanina (2013). The descriptive results were as shown in Table 1.

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Table 1: Descriptive Statistics: Intellectual Capital

	N	Mean	Std. Deviation	Coefficient of Variation	t-statistic	Sig. (2-tailed)
Innovation Efforts						
We encourage all our staff to be innovative.	131	3.63	1.131	0.312	36.758	.000
The management of this firm has adopted a number of innovative initiatives.	131	3.31	1.082	0.327	35.048	.000
We design new production processes frequently	131	3.24	1.108	0.342	33.427	.000
Number of new Products						
We encourage our employees to suggest new products that may increase customer utility	131	3.47	1.185	0.341	33.537	.000
This firm develop new products regularly	131	3.13	1.041	0.333	34.421	.000
Our enterprise design and produce new products every year	131	2.90	1.129	0.389	29.407	.000
Knowledge Level						
Our company encourage our staff to research widely	131	3.51	1.211	0.345	33.180	.000
Our production processes are knowledge based	131	3.31	1.171	0.354	32.390	.000
This firm has a library to encourage our staff to improve their knowledge level	131	2.91	1.406	0.483	23.680	.000
Number of Patents						
This company has patented all its production formulae	131	3.13	1.303	0.416	27.487	.000
This firm boast of having the most number of patents	131	2.88	1.259	0.437	26.163	.000
Aggregate Score	**131**	**3.221**	**1.184**			

Source: Survey Data (2018)

The results shown in Table 1 indicated that the overall mean score for intellectual capital was 3.221 meaning that majority of small and medium manufacturing enterprises employed intellectual capital only to a moderate extent. This may be attributed to the fact that majority of the manufacturing enterprises developed and produced a certain line of

products which are patented already and therefore, only a few developed new products and innovated new once. As noted earlier by Vafaei, Taylor and Ahmed (2011) intellectual capital can be converted into future profits and comprises resources such as ideas, inventions, technologies, designs, processes and informatics programs. Consequently, majority of small and medium manufacturing enterprises may have experienced poor performance and ultimately closing down their operations as observed by Bowen, Morara and Mureithi (2009) because of failing to exploit the intellectual capital at their disposal.

The results however showed that the statement with the highest mean score was that majority of small and medium manufacturing enterprises in Kenya encourage their staff to be innovative with mean score of 3.64. This implied that in some manufacturing enterprises innovation was enthralled. The results tallied with the statement with the least mean score which indicated that most firm boasted of having majority number of patents with a mean score of 2.88 meaning that manufacturing enterprises hardly innovated new products and process as shown by few patents granted. The study thus established that although some manufacturing enterprises endeavoured to be innovative, this did not translate into new products or process. In view of Ngugi (2014) intellectual capital positively influence the growth of Small and Medium Sized Enterprises in Kenya while at the same time Njuguna, (2014) showed that intellectual capital improves financial performance of Kenyan state corporations. In light of these revelations, the study finds that small and medium manufacturing enterprises in Kenya would benefit immensely from capitalisation on the available intellectual capital by being innovative, developing new products and processes and sharing this knowledge across the firm.

Table 2: Descriptive Statistics for Performance

	N	Mean	Std. Deviation	Coefficient of Variation	t-statistic	Sig. (2-tailed)
Profitability						
Gross profit margin has been on the rise	131	3.79	.950	0.251	45.687	.000
We have observed a steady increase in profit before tax	131	3.66	1.058	0.289	39.553	.000
This company has over the years experienced gradual growth in profit after tax	131	3.63	1.083	0.298	38.409	.000
Sales volume						
Our firm has been experiencing growing sales volume	131	3.85	1.016	0.264	43.419	.000
Our customers have been gradually increasing their order volumes	130	3.62	1.109	0.306	37.157	.000
Market Share						
Our main products occupy the bigger portion of market share	131	3.63	1.018	0.280	40.775	.000
We pride as the manufacturing firm with the highest market share	131	3.52	1.126	0.320	35.784	.000
Number of Customers						

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The quality of our products has helped us increase the number of customers	131	3.95	1.152	0.292	39.199	.000
The number of customers in this firm has been gradually increasing	131	3.89	1.010	0.260	44.136	.000
	N	**Mean**	**Std. Deviation**	**Coefficient of Variation**	**t-Statistic**	**Sig. (2-tailed)**
Aggregate Score	**131**	**3.727**	**1.058**			

Source: Survey Data (2018)

The overall mean score for the firm performance was 3.727 indicating that majority of respondents agreed that the performance of their firms had increased to a great extent. Additionally, the overall standard deviation was 1.058 which shows that there was a high dispersion in performance among the small and medium manufacturing enterprises in Kenya. Based on the magnitude, it was found that majority of small and medium manufacturing enterprises in Kenya relied on the quality of their products to increase the number of customers as shown by a mean score of 3.95 and a standard deviation of 1.152. The high value of the standard deviation depict that there was high variability on the pursuit of quality products among the small and medium manufacturing enterprises.

The respondents also believed to a great extent that their manufacturing firm had the highest market share with a mean score of 3.52 and a standard deviation of 1.126. Although, this is the statement that received the least mean score, the results showed that majority of the respondents believed that their firm held a significant proportion of the market in the regions that they operate. Hatch and Howland (2015) had earlier concluded that for firms to effectively compete in the complex and highly competitive environment, companies must constantly improve the quality of their products, reducing costs, and differentiating their products and services. The results therefore show that small and medium manufacturing enterprises in Kenya had adopted this strategy to a great extent though with a significant level of variability as shown by the standard deviation.

Reliability of the Research Instruments

Reliability of the research instrument in this study was tested using internal consistency test. The internal consistency was measured using Cronbach's alpha coefficient (α) which indicates how well the items in a set are positively correlated to one another (Benjamin & Orodho, 2014). The study calculated the reliability of the study variables and the results are as shown in Table 3.

Table 3: Validity and Reliability Analysis

Variable	**Cronbach's Alpha**		
	Pilot	**Main Study**	**Remarks**
Intellectual capital	.953	.905	Reliable
Performance	.904	.904	Reliable

Source: Survey Data (2018)

From the result shown in Table 3.4, it is found that intellectual capital had a coefficient of 0.905 while performance had a coefficient of 0.904. Based on these observations, the study noted that the coefficients intellectual capital was greater than 0.7 and it was therefore concluded that the questionnaire was reliable.

The inferential analysis conducted through regression analysis showed the results in Table 4.

Table 4: Regressing Performance on Intellectual Capital

Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**
1	.158[a]	.025	.017	.78576

Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	12.043	1	12.043	22.306	.071[b]
	Residual	69.647	129	.540		
	Total	81.69	130			

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	3.212	.300		10.697	.000

Intellectual Capital	.162	.089	.158	1.819	.071

a. Dependent Variable: Performance
b. Predictors: (Constant), Intellectual Capital
Source: Survey Data (2018)

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Table 4 shows that the R square (R^2) for the model was 0.025 meaning that intellectual capital contributed 2.5 percent of the changes in performance of small and medium manufacturing enterprises in Kenya. The results also meant that 97.5 percent of the changes in performance of small and medium manufacturing enterprises in Kenya are explained by other variables other than intellectual capital. At the same time, the F-statistic for the regression model was 22.306 which was greater than the F-Critical of 3.9146. Similarly, the P-value for the F-statistic was found to be 0.071 which was greater than the significance level of 0.05. Therefore, the study concluded that the model was not fit in predicting performance.

In addition, the coefficient results for the regression model showed that the unstandardized coefficients of the constant and intellectual capital were 3.212 and 0.162 respectively. These results showed that holding intellectual capital constant at zero, performance of small and medium manufacturing enterprises in Kenya would be equal to 3.212. In addition, the results indicate that holding all other factors constant, if intellectual capital increases by one unit, it would cause a 0.162 increase in performance of small and medium manufacturing enterprises in Kenya. Further, the P-value for the coefficient of intellectual capital was found to be 0.071 which was greater than the significance level of 0.05. Therefore, on the basis of these results the study failed to reject the null hypothesis and concluded that intellectual capital has no significant influence on performance of small and medium manufacturing enterprises in Kenya.

The regression results were thus summarised as follows;

$$FP = 3.212 + 0.162INC + e$$

The regression results in this study were in line with the descriptive statistics which showed that the aggregate mean score of intellectual capital was 3.221 which represents a moderate extent. These results are in line with the low regression coefficients. I particular the respondents indicated to a moderate extent that they encourage their staff to be innovative and suggest new products that may increase customer utility. In addition, the study noted that the production process was relatively knowledge based to a moderate extent. Further, the results showed that just a few enterprises designed and produced new products every year. Moreover, it was noted that while some manufacturing firms had patented all its production formulae some of them had not depicting that they were not keen on their intellectual capital resulting in the low scores observed.

Theoretically, the variable was anchored on the Resource Based View Theory as advanced by Penrose (1959). The theory postulates that for strategic resources to help a firm gain superior performance, such strategic resources must be unique and non-substitutable. In view of Barney and Hesterly (2010) intellectual capital is based on the firm's employees and when patented can be protected by law as a strategic resource to the firm. In addition, no firm can be able to imitate anther in terms of innovation efforts and knowledge levels. For this reason, the study supports the postulates of the theory that for strategic resources to generate competitive advantage and superior performance they need to be unique and non-substitutable.

The results obtained in this study contradicted the conclusions reached by Zerenler, Hasiloglu and Mete (2008) who showed that intellectual capital has a significant positive relationship with innovation performance. Further, Ngugi (2014) exploring the influence of intellectual capital on the growth of SMEs in Kenya revealed that managerial skills of the owner/managers positively influence the growth of Small and Medium Sized Enterprises in Kenya. Moreover, Njuguna (2013) showed that intellectual capital improves the firm's performance financial performance of Kenyan state corporations through culture, which contains valuable practices of conducting business. Finally, Mungai (2014) studying intellectual capital and operational performance of commercial banks in Kenya, established that intellectual capital largely affects the operational performance of commercial banks in Kenya.

Earlier studies done by Zerenler, Hasiloglu and Mete (2008), Kianto, Andreeva and Pavlov (2013),
Ngugi (2014), Njuguna (2014), Mungai (2014) and Kariuki, K'Obonyo and Ogutu (2015) had identified that most of the studies done had focused on large and established firms ignoring the small and medium sector particularly in manufacturing. The study had also identified that earlier studies had focused on the relationship between intellectual capital and other constructs such as growth, operational efficiency failing to show the link between intellectual capital and integrated firm performance. This study therefore contributes to the body of knowledge by filling these gaps.

Correlation Analysis

The objective of correlation analysis was to establish the nature and strength of the relationship that exist among the study variables. To achieve this objective, Pearson's product moment correlation was used. The decision on the

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strength of the relationship was based on Dancey and Reidy (2004) recommendations who indicated that a correlation coefficient of 1 indicates that there is a perfect correlation between the variables, a correlation coefficient of 0.7 to 0.9 shows a strong correlation, a coefficient of, 0.4 to 0.6 indicates a moderate correlation, a coefficient of 0.1 to 0.3 shows a weak correlation while a coefficient of 0 shows absence of correlation. The results of the correlation analysis were as summarised in Table 5:

Table 5 Correlations Analysis Results

		Performance	Intellectual Capital
Performance	Pearson Correlation	1	.158
	Sig. (2-tailed)		.001
	N	131	131
Intellectual Capital	Pearson Correlation	.158	1
	Sig. (2-tailed)	.001	
	N	131	131

Based on the results shown in Table 5, it is found that the correlation coefficient between performance and intellectual capital was 0.158 with a significance level of 0.001. These results show that there a weak positive correlation between performance of small and medium manufacturing enterprises and intellectual capital. In general, the results showed that there was a positive correlation between performance of small and medium manufacturing enterprises and intellectual capital implying that an increase in strategic resources lead to an increase in performance of small and medium manufacturing enterprises in Kenya.

4. Conclusion

The results in the study showed that intellectual capital had a moderate influence on performance however, this influence was not significant. The study thus concluded that intellectual capital has no significant influence on performance of small and medium manufacturing enterprises in Kenya. The results further showed that innovation efforts significantly predicted performance while number of patents, number of new products and knowledge level failed to significantly predict performance of small and medium manufacturing enterprises in Kenya. The study further concluded that intellectual capital was significant in predicting profitability but insignificant in predicting number of customers, sales volume and market share.

Recommendation

Based on the study results, the study concluded that intellectual capital has no significant influence on performance of small and medium manufacturing enterprises in Kenya. In this regard the study recommend that the management of small and medium manufacturing enterprises should carry our cost benefit analysis before committing their resources to protect their intellectual capital in form of patents. It was however noted that innovation efforts and new products affected performance to a great and the management should therefore focus their energy on them.

References

Ashton, W., Russell, S., & Futch, E. (2017). The adoption of green business practices among small US Midwestern manufacturing enterprises. *Journal of Environmental Planning and Management*, *60*(12), 2133-2149.

Shakya, M. S., Patel, M. M., & Singh, V. B. (2016). Knowledge level of chickpea growers about chickpea production technology. *Indian Research Journal of Extension Education*, *8*(3), 65-68.

Pisano, G. P. (2015). You need an innovation strategy. Harvard Business Review, 93(6), 44-54.

Barney, J. B, & Hesterly, W.S (2010). *Strategic management and competitive advantage concept.* Upper saddle River, N.J: Pearson Prentice Hall.

Bowen, M., Morara, M., & Mureithi, M. (2009). Management of business challenges among small and micro enterprises in Nairobi-Kenya. *KCA journal of business management*, *2*(1), 957-983.

Chu, S. K. W., Chan, K. H., Yu, K. Y., Ng, H. T., & Wong, W. K. (2011). An empirical study of the impact of intellectual capital on business performance. *Journal of Information & Knowledge Management*, *10*(01), 11-21.

Dumay, J., & Garanina, T. (2013). Intellectual capital research: a critical examination of the third stage. *Journal of Intellectual Capital*, *14*(1), 10-25.

Dzenopoljac, V., Yaacoub, C., Elkanj, N., & Bontis, N. (2017). Impact of intellectual capital on corporate performance: evidence from the Arab region. *Journal of Intellectual Capital*, *18*(4), 884-903.

DOI: 10.25103/ijbesar.122.02

Glesne, C. (2015). *Becoming qualitative researchers: An introduction.* Delhi, Pearson Education.

Hatch, N. W., & Howland, C. (2015). When Does Competitive Advantage Improve Customer Welfare? In *Academy of Management Proceedings* (Vol. 2015, No. 1, p. 18091). Academy of Management.

Jobson, J. (2012). *Applied multivariate data analysis: volume II: Categorical and Multivariate Methods.* Berlin, Springer Science & Business Media.

Kamath, G. B. (2010). Intellectual capital efficiency analysis of Indian private sector banks. *IUP Journal of Bank Management*, *9*(3), 23.

Kariuki, A., K'Obonyo, P., & Ogutu, M. (2015). Intellectual Capital and Performance of Firms Listed on Nairobi Securities Exchange. *DBA Africa Management Review*, *5*(2).

Keller, R. H. (2014). Is team based tacit knowledge transferable? Players as strategic resources. *Journal of Management Policy and Practice*, *15*(4), 40.

Kraaijenbrink, J., Spender, J. C., & Groen, A. J. (2010). The resource-based view: A review and assessment of its critiques. *Journal of management*, *36*(1), 349-372.

Lazear, E. P. (2009). Firm-specific human capital: A skill-weights approach. *Journal of political economy*, *117*(5), 914-940.

Molloy, J. C., Chadwick, C., Ployhart, R. E., & Golden, S. J. (2011). Making intangibles "tangible" in tests of resource-based theory: A multidisciplinary construct validation approach. *Journal of Management*, *37*(5), 1496-1518.

Mungai, S. N. (2014) *Intellectual capital and operational performance of commercial banks in Kenya.* (Unpublished doctoral dissertation), University of Nairobi, Kenya.

Ngugi, J. K. (2014). *Influence of Intellectual Capital on the growth of small and Medium Enterprises in Kenya.* (Unpublished MBA Project), University of Nairobi, Kenya.

Njuguna, L., & Moronge, M. (2014). Influence of the managerial behaviour of agency cost on the performance of listed firms on NSE. *International Journal of Social Sciences and Entrepreneurship*, *1*(7), 397-410.

Obeidat, B. Y., Tarhini, A., Masa'deh, R. E., & Aqqad, N. O. (2017). The impact of intellectual capital on innovation via the mediating role of knowledge management: a structural equation modelling approach. *International Journal of Knowledge Management Studies*, *8*(3-4), 273-298

Otor, E.O (2015). *The influence of intellectual capital on the performance of small and medium enterprises a case of Mombasa county Kenya.* (Unpublished doctoral dissertation), University of Nairobi, Kenya.

Penrose, E.T. (1959). *The Growth of the Firm.* NewYork, Wiley.

R.o.K (2005). *State of implementation of the micro and small enterprises act.* Nairobi, Government Printer.

RoK, (2015). *The National Micro and Small Enterprise Baseline Survey in Kenya.* Nairobi, Government Printer.

Rothaermel, F. T. (2015). *Strategic management.* New York, McGraw-Hill Education.

Sekaran, U., & Bougie, R. (2010). Research Methods for Business: A Skill. *Building Approach.* Hoboken, New Jersey: John Wiley & Sons.

Teece, D. J. (2014). The foundations of enterprise performance: Dynamic and ordinary capabilities in an (economic) theory of firms. *The Academy of Management Perspectives*, *28*(4), 328-352.

Vafaei, A., Taylor, D., & Ahmed, K. (2011). The value relevance of intellectual capital disclosures. *Journal of Intellectual Capital*, *12*(3), 407-429.

Wang, Z., Cai, S., Liang, H., Wang, N., & Xiang, E. (2018). Intellectual capital and firm performance: the mediating role of innovation speed and quality. *The International Journal of Human Resource Management*, 1-29.

Zerenler, M., Hasiloglu, S. B., & Sezgin, M. (2008). Intellectual capital and innovation performance: empirical evidence in the Turkish automotive supplier. *Journal of technology management & innovation*, *3*(4), 31-40.

Zott, C., Amit, R., & Massa, L. (2011). The business model: recent developments and future research. *Journal of management*, *37*(4), 1019-1042.