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Influence of Leadership on Innovation Efficiency in Manufacturing Firms in Kenya

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The purpose of this paper is to determine the influence of leadership on Innovation Efficiency (IE) in manufacturing firms in Kenya. A mixed research methodology was and cross-sectional design was applied. The target population was 2484 leaders and multi-stage sampling was used to sample 345 respondents. Primary data was collected. The results revealed that leadership has a significant influence on IE. It is concluded that management should practice and encourage creativity, exploration, inspiration, exploitation and entrepreneurial mindset to promote IE. Further research should be conducted to find out how leadership should balance the trade-off between risk management and IE.

Keywords: leadership, innovation efficiency, exploration, entrepreneurial mindset

Introduction

The emerging strategic intent of firms is to expand their growth opportunities by optimising their capacities. Leadership has therefore been tasked with the responsibility of utilising the resources efficiently for the attainment of current and future goals. Visser et al. (2010) contend that firms should not only be adaptable to current but also future business (structural ambidexterity) for sustainability. This calls for leadership to focus on Innovation Efficiency (IE) for sustained performance improvement.

The global market has been characterised by a turbulent and highly competitive environment. The scenario has been brought about by the rapidly changing technology, customers' needs and environmental concerns. Innovation efficiency has however greatly impacted the growth of emerging economies such as China (Luo et al., 2011). This is contrary to countries in Africa, especially sub-Saharan Africa, which rely on exhaustible natural resources and are involved in primary and extractive activities whose outputs

are semi-finished products used as raw materials in developed economies. Sustainable performance in manufacturing firms in Kenya has remained elusive for decades. Several manufacturing firms are struggling to stay afloat; others have closed down while others have relocated to other countries in search of competitive advantage.

The growth in the manufacturing sector in Kenya has been dismal, lagging behind the overall economic growth rate and its contribution to the exports has declined as a result of low competitiveness. The low competitiveness is evidenced by the country's low Competitive Industrial Performance (CIP) index of 0.011, which is below the world average of 0.079 while other middle-level industrial countries such as South Africa, South Korea and India are above the world average (Kenya Institute of Public Policy Research and Analysis, 2018). The sector's low competitiveness is manifested in the declining growth rate and its contribution to the Gross Domestic Product (GDP).

The dismal performance in the sector is attributed to its decelerating growth rate. The World Bank (2018) report on Kenya's economic update shows that the growth rate in the sector has been declining from 3.6% to 2.7% and 0.2% in 2015, 2016 and 2017 respectively. The situation is further worsened by the fact that the last six years have also been characterised by a downward trajectory in terms of the sector contribution to GDP. The manufacturing sector contribution to GDP has been declining from 11%, 10.7%, 10%, 9.4%, 9.1% and 8.4% from 2012 to 2017 respectively against the target of 15% as stipulated in vision 2030 (Kenya National Bureau of Statistics, 2018). The low GDP contribution has put the country at a disadvantage with peer countries from other fast-growing low middle-income economies due to lack of competitiveness, which emanates from low IE. The situation has been brought about by the failure of incorporating local knowledge in the innovation process (Sambuli & Whitt, 2017). This implies that leadership has not harnessed their exploratory and exploitative capacity to utilise the resources at their disposal.

There are few studies of IE at the micro-level as most of them have focused on the macro level. The purpose of this paper was therefore to determine the influence of leadership on innovation efficiency in manufacturing firms in Kenya. The objective of the study was evaluated through testing of hypothesis. The null hypothesis in this case was; leadership has no significant influence on IE in manufacturing firms in Kenya. The alternative hypothesis is that leadership has a significant influence on IE.

Literature Conceptual Underpinning

The exploration of sustained growth can be addressed by firms aligning themselves with the changing market trends. Improved IE can enhance sus-

tained growth. Innovation efficiency has been defined as the capacity for transforming innovation inputs into outputs; it is the ratio between education investment in innovation and output (Hollanders & Esser, 2007). Innovation efficiency can, therefore, be defined as the effectiveness of converting innovation inputs into outputs.

Innovation efficiency is important in several ways. It helps in identifying the best innovation practices, which can be used for benchmarking. It is also important in developing innovation policy (Hollanders & Esser, 2007). This is crucial in evaluating the value of the key players in the innovation systems. It also focusses on the commercialisation and the economic benefits of innovation activity (Wang et al., 2016). Commercialisation help firms to develop a new approach of consolidating the local markets while at the same time regionalising and globalising the market niche to gain access to the larger customer base for greater sales. Innovation efficiency, therefore, enables a firm to value the economic importance of innovation activities.

There are several methods of measuring IE. They include Stochastic Frontier Analysis (SFA), Data Envelopment Analysis (DEA) and Two-Stage IE Non-Radial DEA model. The SFA is a parametric analysis which assumes a particular relationship between innovation inputs and outputs, but not suitable when dealing with multiple outputs (Wang et al., 2016). Outputs for innovation are numerous because they include new products, patents acquired, innovation process, new enterprises and new markets. This approach of measuring IE is not suitable for this study.

The second method is DEA, which is an improvement of SFA. It utilises data from multiple inputs and outputs with no prior specification format (Guan & Chen, 2012). However, it does not capture the operations, internal systems and processes involved in IE (Wang et al., 2013). This study utilised the operations, internal systems and processes hence DEA is not appropriate in this case.

The third approach, which is the two-stage DEA, model built on the second method. The approach involves the optimisation of resources (Wang et al., 2016) and has been used in the manufacturing sector (Bian et al., 2015). The method is of two types; radial and non-radial DEA. Radial DEA does not account for inefficiencies in inputs and output (Wang et al., 2016). The study accounted for the inefficiencies, thus this approach is not appropriate in this case. Non-radial DEA provides for optimisation of strategies and is therefore relevant to this study. The approach recognises innovation input as comprising human, financial and material resources, while the output is the commercialisation of innovation in terms of the market value and profits (Wang et al., 2016). The model, therefore, captures the resources at the disposal of a firm as the input of determining the IE. These resources

are under the stewardship, discretion and utilisation of the firm leadership. Leadership is therefore a critical component in IE.

Leadership can influence how resources are applied and is thus viewed as one of the core drivers of IE. The appropriate leadership fosters well-thought decisions and strategic alliances that promote robust plans, development and execution, business intelligence and value creation leading to an improved IE (Murray & Greenes, 2006). The right leadership can, therefore, transform the way an organisation is governed, leading to high levels of IE. Creative leadership develops human and social capital while operational leadership explores new growth paths (Makri & Scandura, 2010). Vaccaro et al. (2012) found that transactional leadership is more beneficial to small firms while transformational leadership is beneficial to large firms. Transformative leadership enhances creativity, adaptability and interactive technologies that can derive value from networking, however further clarity and refinement is required (Desai, 2010). The study interrogated this assertion to verify it and possibly develop a new model. Green and McCann (2011) proposed a different leadership model to combat uncertainties and address the new economic revolution. Nevertheless, transformational leadership can inspire an organisation to greater heights of IE.

Leadership that transforms the mindset is directly related to organisational learning and innovation culture which ultimately influences IE in manufacturing firms, but the complexity of collecting data from multiple information should be re-examined (Sattayaraksa & Boon-itt, 2018). The steps of transformational leadership include; re-imagining customer experience, reducing business ecosystems, promotion of networking and revitalising the innovation governance which can be achieved through accelerating new opportunities, breaking cultural barriers, embracing innovative behaviors and adopting a global mindset (Ikeda et al., 2016). Leadership, therefore, plays a critical role in creating an environment that promotes IE by harnessing knowledge creation, flow and utilisation.

There are various approaches for measuring leadership that has been advanced by different scholars. The key set of actions that determine effective innovative leadership is re-imagining customer experience, redefining the business ecosystem, promoting ecosystem connectivity and revitalization of innovation governance (Ikeda et al., 2016).

Re-imagining customer experience can be measured through production of definitive blueprints, piloting and building foundations of capabilities, programs for innovation and launches, new expertise, new focus and new ways of working. Redefining the business ecosystem can be measured by identifying opportunities to collaborate and participate in an ecosystem and also the development of the capacity to create value for the ecosystem. Promotion of ecosystem connectivity can be measured by networking efficiency,

ecosystem innovation, displacement of value chains and value creation. Revitalisation of innovation governance can be measured by structures that are open for new ideas, dedicated teams to prioritise agility and secure stable innovation funding and quantitative evaluation of innovation initiatives. Kuratko et al. (2011) measured leadership in terms of nourishing entrepreneurial capacity and linking entrepreneurship to strategy. The study improved on these parameters to measure the leadership variable by incorporating the extent of nourishment of entrepreneurial capacity, linking entrepreneurship to strategy, protection of disruptive innovations, an opportunity for developing creativity, questioning of the dominant logic and the level of inspiration provided by leaders. This criterion is more comprehensive and is anchored on the premises of an entrepreneurial mindset that is crucial in driving IE. These attributes of leadership have been linked to IE in this study.

Different researchers have attempted to demonstrate the relationship between Leadership and IE. Oke et al. (2009) found that leadership has a significant influence on exploratory and exploitative innovation that has an impact on IE. Exploratory innovation is derived from strategic alliances while exploitative innovation comes from alignment with the market trends. Noruzy et al. (2013) found that leadership releases social capital that neutralises the tension between innovation and risk management, thus promoting IE. The social capital empowers innovation teams to be more creative and productive. Leadership helps a firm to adapt to changes faster, balance time, cost and value which leads to enhanced IE (Lindgren & Abdullah, 2013). Leadership is therefore a catalyst for IE.

There are two theories on which the study was anchored. The first one is the (Graen & Uhl-Bein 1995) theory of leader-member exchange. The theory underscores the significance of leadership in determining the output of followers, but it does not recognise the dynamics involved in entrepreneurial and innovation context (Surie & Hazy, 2006). The theory is also prone to subjectivity, which can bring about favourism in the leader and the follower relationship, which may alienate other team members and cause counterproductivity. The weaknesses of the theory can be addressed in the Gleick (1987) complexity theory.

The theory is cognizant of the complex context in which leadership finds it and innovation thrives. The complex nature of IE requires to be matched with a complex leadership approach (Rosing, 2015). The theory is relevant in this study because it recognises the dynamics involved in leadership and IE. These aspects of the interrelationship between leadership and IE led to the development of a conceptual framework that captured leadership as the independent variable and IE as the dependent variable. The antecedents of leadership that lead to IE as developed in the literature

Figure 1 The Conceptual Framework

review are; entrepreneurial capacity, entrepreneurial strategy, exploitation, creativity, exploration and inspiration. The measure of IE is market value and profits as indicated in Figure 1.

The conceptual framework is an improvement of the two-stage non-radial DEA model. Leadership provides crucial input in the innovation process, therefore it is captured as the independent variable of this study. Innovation Efficiency is the output of effective leadership and hence it is captured as the dependent variable.

Methodology

Mixed-method research was used to gain a more comprehensive insight into leadership and IE. The research design that was used is a cross-sectional design to allow for observations on characteristics that exist within the manufacturing sector and make a comparison within the subsector.

The target population was the heads of departments in operations, innovation and marketing of each firm in the 828 manufacturing firms that are registered with Kenya Association of Manufacturers' (KAM) across the country as of the year 2018. The total target population was therefore (828 × 3) 2484.

A multi-stage sampling strategy was used because the sampling procedure included several steps. The steps included purposive sampling, stratified random sampling purposive sampling once more and simple random sampling. Purposive sampling was first employed to select the seven major industrial counties from the forty-seven counties in the country. The major industrial counties sampled through this procedure are Nairobi, Mombasa, Kisumu, Nakuru, Kiambu, Machakos and Uasin Ngichu.

The total number of firms sampled using this procedure is the total sum of numbers from the selected counties, which were 780 out of a total number of 828 firms in the country. The second step was stratified random sampling. The procedure was used to sample firms from the seven selected counties in the first step. This was done to provide a proportionate representative sample of the firms from the selected counties relative to the total number of firms per county. The stratified random sampling led to a sample size of 115 firms that were proportionally distributed in the major industrial countries. This was done to eliminate bias in selecting firms from the same area.

The third step was to select the respondents. Purposive sampling was used to sample 3 respondents from the management of each of the 115 firms. The 3 respondents selected were the heads of operations, innovation and marketing because these are the key personnel who have the responsibility of knowledge management, promotion of innovation efficiency in their firms. This brought the total respondents to (3×115) 345.

The final step was simple random sampling. This was done to select firms from the different manufacturing sub-sectors in order to obtain the number of firms per sector and to keep them proportional relative to the size of the 12 sub-sectors. The number of firms sampled was therefore 345 from the major industrial counties and the various sub-sectors.

Primary and secondary data, both quantitative and qualitative, was collected using a semi-structured questionnaire, interview schedule and checklist. The measuring scales were in line with the literature and pre-testing of the research instruments was done through piloting. Correlation and linear regression analysis were used to examine the relationship between leadership and IE. Reliability was tested through internal consistency technique that showed the extent to which the procedures assessed the same characteristics. Prior arrangements were made with management to discuss the best time the respondents would be available to minimise work interruptions.

Findings and Discussions

The questionnaires received and filled up were 295 against 345 issued representing a response rate of 86% from respondents and 101 firms out 115 firms representing 88% of the firms sampled. The male respondents constituted the majority at 58%, which implied that the perspectives expressed are from a male more than from a female point of view. It means that more men than women work as head of operations or production, innovation and marketing in manufacturing firms within the country.

The respondents were also asked to indicate the total sales for each of the past three years. They were also required to indicate the portion of sales attributed to innovation. The proportion of sales attributed to innovation formed the percentage sales growth rate brought about by innovations for the last 3 years as a result of new products, patents acquired, new processes and new enterprises. The sales growth rate brought about by innovations was then computed as sales emanating from innovation activities divided by total sales for a similar period multiplied by 100 to make it a percentage. This constituted innovation efficiency.

The distribution of innovation efficiency across the manufacturing firms for the last three years was also examined. This was done by use of range and standard deviation. The mean innovation efficiency was 0.2971, the

Table 1 Innovation Efficiency Distribution across the Manufacturing Firms

Item		(1)	(2)	(3)	(4)	(5)
N	Valid	101	0	0	101	101
	Missing	0	0	0	0	0
Mean		0.2971	–0.0006	0.0192	0.2591	0.3348
Stdandard error of mean		0.0194				
Stdandard deviation		0.1950	–0.0007	0.0074	0.1794	0.2084
Variance		0.0380	0.0000	0.0030	0.0320	0.0430
Skewness		–0.3030	0.0020	0.1650	–0.6550	0.0200
Stdandard error of skewness		0.2400				
Range		0.5400				

Notes Column headings are as follows: (1) statistics, (2) bias, (3) standard error, (4) lower 95% confidence interval, (5) upper 95% confidence interval.

range was between zero and 0.54 and the standard deviation was 0.19499 as indicated in Table 1.

The mean of 0.2971 implies that on average, each firm had approximately 30% innovation efficiency. This means that the innovation activities in manufacturing firms contributed to about a third of sales per firm on the average. The range implies that the innovation efficiency across manufacturing firms varied from zero to 0.54. This means that the lowest IE was zero and the highest at 0.54. The standard deviation of 0.195 implies that there was a small spread within the sample. This means that there was a high degree of uniformity in innovation efficiency across manufacturing firms and thus a high level of homogeneity in the sample.

The parameters for measuring the latent variable of leadership were the extent of nourishment of entrepreneurial capacity, linking entrepreneurship to strategy, protection of disruptive innovations, an opportunity for developing creativity, questioning of the dominant logic and the level of inspiration provided by leaders. The responses were captured on a Likert scale which had six items with a scale of 1 to 5 and thus the expected maximum score was 30. The score on each of the items was then added up to form the composite value of leadership in each firm.

The scores of leadership were ranked in terms of their frequency of occurrence. The highest frequency of leadership is a score of 27 as indicated in Figure 2.

This implies that most firms had leadership that promotes innovation. It meant that the nourishment of entrepreneurial capacity, linking entrepreneurship to strategy, protection of disruptive innovations, provision of opportunity to develop creativity, questioning of the dominant logic and acceptable level of inspiration was provided by leaders which promoted innovation activities.

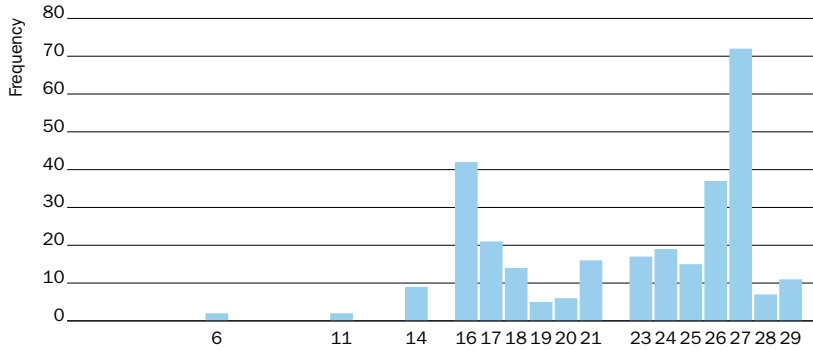

Figure 2 The Distribution of Leadership Score in Manufacturing Firms in Kenya (mean = 22.49, standard deviation = 4.885, *N* = 295)

The mean, range and standard deviation were used to analyse the trend of leadership in the manufacturing sector. The mean score for leadership was 22.5149, the minimum score was 15, the maximum was 28 giving a range of 13 and the standard deviation was 4.885.

The mean score of 22 generally implies that manufacturing firms had the right leadership to nurture a culture of innovation. However, the minimum score of 15 implies that some firms did not have the right leadership to encourage innovation. The standard deviation of 4.5 implies that there was a wide variance in terms of leadership across the firms. It meant that there was a low degree of uniformity in leadership across manufacturing firms and therefore a low level of homogeneity in the firms under review. The computed standard error on leadership and confidence intervals levels ranged from 0 to 2.4 and confidence intervals levels were computed at 95% as indicated in Table 2. This implies that the data collected was not biased. This led to a further analysis of how the various subsectors performed in terms of leadership.

The comparison of how the different subsectors performed was carried out. The subsector that showed a high level of variance on leadership score was paper and board. This implies that there was indifference as to whether leadership promoted innovation in the firms within the paper and board subsector. It means that leadership that promotes innovation was encouraged in some firms while it was not the case with others within the subsector.

The respondents were then invited to list the factors that affect leadership concerning IE. The main factors were training, openness to new ideas, partnership and networking abilities, strategy, management style and resource provision in descending order. The other factors that were raised include proactiveness, knowledge management, provision of a conducive working environment, communication skills, organisation culture, level of experience, working teams, ability to implement agreed issues, staff en-

Table 2 The Distribution of Leadership Score in Manufacturing Firms in Kenya

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6.00	2	0.7	0.7	0.7	0.0	0.5	0.0	1.7
11.00	2	0.7	0.7	1.4	0.0	0.5	0.0	1.7
14.00	9	3.1	3.1	4.4	0.0	1.0	1.4	5.1
16.00	42	14.2	14.2	18.6	0.0	2.1	10.2	18.3
17.00	21	7.1	7.1	25.8	0.0	1.5	4.4	10.2
18.00	14	4.7	4.7	30.5	0.0	1.2	2.4	7.5
19.00	5	1.7	1.7	32.2	0.0	0.8	0.3	3.4
20.00	6	2.0	2.0	34.2	0.0	0.8	0.7	4.1
21.00	16	5.4	5.4	39.7	0.0	1.3	3.1	8.1
23.00	17	5.8	5.8	45.4	0.0	1.3	3.4	8.8
24.00	19	6.4	6.4	51.9	0.0	1.5	3.7	9.5
25.00	15	5.1	5.1	56.9	0.0	1.3	2.7	7.8
26.00	37	12.5	12.5	69.5	–0.1	1.9	9.2	16.6
27.00	72	24.4	24.4	93.9	0.0	2.4	20.0	29.2
28.00	7	2.4	2.4	96.3	0.0	0.9	0.7	4.4
29.00	11	3.7	3.7	100.0	–0.1	1.1	1.7	5.8
Total	295	100.0	100.0		0.0	0.0	100.0	100.0

Notes Column headings are as follows: (1) score (2) frequency, (3) percent, (4) valid percent, (5) cumulative percent, (6) bias, (7) stdandard error, (8) lower 95% confidence interval, (9) upper 95% confidence interval.

gagement, flexibility, generation gap, risk management, level of technology savviness, competence, monitoring and evaluation ability. It was observed that firms with clear evidence of corporate learning, open channels of communication and an operation strategic plan had high levels of IE.

The measures of each of the parameters of leadership were first tested for reliability to determine the scale stability in providing similar outcomes in repeated trials. This was done through a scale reliability analysis. The result was a Cronbach's Alpha of 0.905. The value is above 0.7, which is above the recommended threshold of 0.7. It means that the scale used to measure IE is reliable and can be replicated in other trials with similar outcomes. This is consistent with Alegre et al. (2006) who found that the Cronbach's alpha of the measures of the latent variable should be more than 0.7.

The next step was to find the Multicollinearity between the leadership and IE. This is important because Multicollinearity weakens the precision power of a statistical regression model. The Multicollinearity test was conducted through the application of the Variance Inflation Factor (VIF) and the level of tolerance. The results produced the highest VIF of 2.793 and the highest tolerance value of 0.535 as indicated in Table 3.

Table 3 Multicollinearity Test between Measures of Leadership and IE

Item	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Constant)	–0.454	0.032		14.305	0.000		
Entrepreneurial capacity nourished	0.005	0.011	0.024	0.474	0.636	0.426	2.35
Protection of disruptive innovation	0.031	0.010	0.158	2.956	0.003	0.380	2.629
Leadership encourages creativity	0.075	0.009	0.359	7.972	0.000	0.535	1.870
Dominant logic questioned	0.031	0.011	0.149	2.702	0.007	0.358	2.793
Leadership provide motivation to innovate	0.007	0.011	0.034	0.623	0.534	0.367	2.722
Activities linked to strategy	0.053	0.011	0.268	4.903	0.000	0.363	2.751

Notes Column headings are as follows: (1) *B*, (2) standard error, (3) β, (4) *t*, (5) significance, (6) tolerance, (7) VIF.

Table 4 Correlation between Leadership and Innovation Efficiency

Item		Innovation efficiency	Leadership
Pearson correlation	Innovation efficiency	1.000	0.806
	Leadership	0.806	1.000
Significance (1-tailed)	Innovation efficiency		0.000
	Leadership	0.000	
N	Innovation efficiency	295	295
	Leadership	295	295

The values of VIF for each of the measures of leadership are less than the cut-off point of 10 and fall between 1 and 3 implying a moderate Multicollinearity that does not require corrective action. The tolerance values of each of the measures of leadership were greater than the required minimum threshold of 0.10 indicating the absence of Multicollinearity. The findings are in tandem with Suki & Suki (2015) who found that a VIF of less than 10 and a tolerance value of between 0 and1 does not warrant any action.

Bivariate correlation between leadership and IE was then conducted to determine their relationship. This was done by running a linear regression that provided a Pearson correlation coefficient (*r*); the value was 0.806 as indicated in Table 4.

The Pearson correlation value between leadership and IE was 0.806, which is near one, implying that a strong relationship between the two variables exists. The value is also positive, implying that leadership and IE move in the same direction hence they are correlated. It means that as leadership improves so does IE and vice versa among manufacturing firms.

Table 5 The Linear Regression between Leadership and Innovation Efficiency

Item	(1)	(2)	(3)	(4)	(5)
Regression	7.754	1	7.754	543.273	0.000
Residual	4.182	293	0.014		
Total	11.935	294			

Notes Column headings are as follows: (1) sum of squares, (2) degrees of freedom, (3) mean square, (4) *F*, (5) significance.

The findings are in tandem with (Desai, 2010) who found that leadership is related to IE.

The linear regression between leadership and IE was also conducted to test for the study hypothesis. The null hypothesis stated that leadership does not influence IE in manufacturing firms in Kenya. The results showed that the *P* value was zero as indicated in Table 5.

The P-value was zero, which is less than 0.05. This led to the rejection of the null hypothesis and acceptance of the alternative hypothesis. It, therefore, means that leadership has a significant influence on IE in manufacturing firms in Kenya. This implies that leadership is crucial in determining the levels of IE and is consistent with Oke et al. (2009) who found that leadership has a significant influence on IE.

The extent to which leadership influenced IE was also determined. This was done by observing the value of R square in the linear regression analysis. The value of R2 was 0.650, which is equivalent to 65%. This implies that 65% of a unit change in IE can be explained by a unit change in leadership. It means that leadership is a major determinant of IE. This concurs with Noruzy et al. (2013) who found that Leadership promoted IE. It has therefore been found that leadership is directly related to IE and has a significant influence on it.

The findings indicate that leadership has a significant influence on IE in manufacturing firms in Kenya. Results are obtained in tandem with Xenikou and Simosi (2006) who found that leadership, especially transformational one, is directly related to IE. This concurs with Simons and Sower (2012) who found that good leadership is paramount for enhancing IE. The findings also concur with Ikeda et al. (2016) who found that transformational leadership has a significant influence on innovative behaviours, thus impacting on IE. The findings are also consistent with Jia et al. (2018) who found that transactional leaders inhibit knowledge entrepreneurship while transformational leadership enhances IE. The findings are also consistent with Sattayaraksa and Boon-itt (2018) who found that good leadership transforms the mind-set, thus influencing IE in manufacturing firms. This concurs with Naqshbandi et al. (2019) who found that leadership that empowers employees promotes knowledge entrepreneurship which has a positive in-

fluence on IE. Sufficient evidence, therefore, abounds on the relationship between Leadership and IE.

However, other scholars found otherwise. Prajogo et al. (2007) found that leadership does not necessarily influence IE. It is therefore observed that the type of leadership in manufacturing firms matters in promoting IE. The study found that a specific type of leadership that contributes to IE is the one that nurtures creativity encourages exploration, provides inspiration and promotes exploitation. This can be achieved by promoting entrepreneurial capacity and strategy, protection of disruptive innovations, encouraging the questioning of the dominant logic by leaders.

It has a significant influence on the market value of a firm and its profits that comprise the IE in the manufacturing sector in Kenya. It is therefore concluded that transformation leadership natures KE which in turn influences IP.

Conclusions and Recommendations

The study concludes that the various aspects of leadership that nurture creativity, exploration, inspiration and exploitation have a significant influence on IE. These aspects are the basis of transformational leadership. Transformational leadership should, therefore, be encouraged in the manufacturing firm to improve on IE that plays a key role in enhancing competitiveness.

It is recommended that management should practice and encourage creativity, exploration, inspiration, exploitation and entrepreneurial mind-set for higher IE, high innovation performance and ultimately to improve their competitiveness. Further study should be conducted on how leadership should balance the trade-off between risk management and IE.

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