DBA AFRICA MANAGEMENT REVIEW

VOLUME 10 NO. 5

2020

ORGANIZATIONAL AMBIDEXTERITY AND PERFORMANCE OF LARGE MANUFACTURING FIRMS IN KENYA

PATRICK M.MUTISYA
PROF. PETER K'OBONYO
DR KENNEDY OGOLLAH
PROF. JAMES M.NJIHIA

A Quarterly publication of the Department of Business Administration,
School of Business,
University of Nairobi

ISSN NO: 2224-2023

http://journals.uonbi.ac.ke/damr
November 2020 Vol 10 No 5 Pgs 23-36

ISSN - 2224-2023

DBA Africa Management Review

Received Date
15/10/2020
Accepted Date
20/11/2020

ORGANIZATIONAL AMBIDEXTERITY AND PERFORMANCE OF LARGE MANUFACTURING FIRMS IN KENYA

Patrick M.Mutisya[1], Prof. Peter K'Obonyo[2], Dr Kennedy Ogollah[3], Prof. James M.Njihia[4]

Abstract

The research objective was to establish the influence of organizational ambidexterity on the Kenyan large manufacturing firms' performance. The studies linking ambidexterity to organizational performance are scanty and with mixed findings. The few studies that have been done indicate that there is no clear ambidexterity - organizational performance relationship. The research was founded on dynamic capabilities theory. On the basis of reviewed literature, a conceptual model and hypotheses were formulated to guide the study. Positivism provided philosophical foundation. The population was the entire 107 Kenyan large manufacturing firms, therefore a census. Cross-sectional research survey design was used. Primary data was collected using a structured questionnaire. The respondents were the senior managers of the large manufacturing firms in Kenya; namely either Chief Executive Officers/Managing Directors (CEOs/MDs) or General Managers (GMs), or Heads of departments (HODs). The hypothesis that Organizational ambidexterity has no significant influence on the performance of large manufacturing firms in Kenya was tested using simple linear regression analysis. The results showed positive and statistically significant influence of organizational ambidexterity on the performance of Kenyan large manufacturing firms.

Keywords: Organizational ambidexterity, exploration, exploitation, sensing, seizing, Performance, Large manufacturing firms in Kenya

[1] [1]PhD Candidate, Department of Business Administration - School of Business, University of Nairobi, Nairobi – Kenya. *pmmutisya@hotmail.com*
[2] Department of Business Administration - School of Business, University of Nairobi, Nairobi - Kenya
[3] Department of Business Administration - School of Business, University of Nairobi, Nairobi - Kenya
[4] Department of Business Administration - School of Business, University of Nairobi, Nairobi - Kenya

Introduction

Background of the Study

Organizational ambidexterity which is an organization's capability to concurrently explore and exploit has drawn wide research attention in strategic management (O'Reilly & Tushman, 2013). Exploration whose focus is new knowledge search necessitates adaptability to environmental changes while exploitation ensures current business efficiency and alignment through enhancement and refinement (March, 1991); hence the increasing consensus among strategic management scholars that organizational ambidexterity enhances business sustainability (Tushman & O'Reilly, 1996). However, scholars have divergent views on ambidexterity with supporters arguing that one-sided focus on either will lead to competence and failure traps, and ultimately obsolescence (O'Reilly & Tushman, 2011). Also, divergent scholars have argued that the two disparate activities may not be attainable (Ghemawat & Costa, 1993) due to resultant tensions (Koryak, Lockett, Hayton, Nicolaou & Mole, 2018), thus suggesting curtailed attainment of superior organizational performance (Tushman & O'Reilly, 1996).

Despite growing research undertaken on organizational ambidexterity in different contexts and methodologies, the findings are varied (Junni, Sarala, Taras & Tarba, 2013). This study draws upon Dynamic Capabilities theory (DCT) which entails the organizational ability to configure and reconfigure its processes and assets to create growth and adaptation within environmental changes (Teece, Pisano & Shuen, 1997). O'Reilly and Tushman (2011) recognized organizational ambidexterity as a major dynamic capability.

Strategic management scholars have shown significant interest in organizational performance as a yardstick in evaluating organizations and their actions (Yang, Huang, & Hsu, 2014). According to Jenatabadi (2015), organizational performance as a construct has many dimensions and its explanation cannot be through a single index, and researchers are yet to reach consensus on its definition and measurement. Valmohammadi (2012) definition of organizational performance and which this study adopts is that organizational performance is an indicator measuring an organization's accomplishment of its set objectives and targets.

Prosperity in organizations is one of the main goals and performance improvement is core in strategic management, thus necessitating close attention to performance measurement by organizations (Venkatraman & Ramanujam, 1986). The organization's performance should be aligned to conflicting current and future aspirations and optimal resource exploitation in the short-run as well as the new resources generation (Miller & Friesen, 1983). However, researchers are yet to reach an agreement on the causes of organizational performance disparities and hence its appropriate measurements (Mugambi & K'Obonyo, 2012).

According to Hubbard (2009), measuring organizational performance has become complex due to the changing expectations by stakeholders on the firm's financial, societal and environmental responsibilities. The emphasis today and which this study adopts is to operationalize performance using the Sustainable Balanced Scorecard (SBSC) which enhances the Kaplan and Norton (1992) balanced scorecard by adding elements to incorporate an

organization's focus on the community and the environment within which it operates. The SBSC includes performance measures on; shareholder interests, organizational processes, customer satisfaction, human factor, societal, and environmental concerns (Hubbard, 2009). Organizational performance outcomes and its measurement are methodology and context-dependent and debate is still an ongoing debate among scholars on what influences it (Mugambi & K'Obonyo (2012) and the current study aimed to make a contribution to this debate.

The study will be undertaken in the LMFs in Kenya. According to the definition of large business by KAM (2018) which this study adopts, they are businesses employing at least fifty employees and minimum Kenya Shillings One Billion sales revenue per annum. This definition is appropriate for a Kenyan study. The manufacturing sector comprises diverse industries categorized as; food-processing, textile, wood, cement production, metal, and commodities sectors (UNIDO, 2012), hence diversity and sector appropriateness for the study.

The declining performance in the sector could be partly explained by several environmental dynamism related challenges; such as uncertainties related to political volatility, high cost of doing business, unfavourable tax regimes, technological advancements, unpredictable weather conditions and weak enforcement of laws and regulations have led to stiff competition from imported goods from China (KNBS, 2019). Other factors include; working capital constraints, labour productivity challenges and inefficiencies in the supply chain and production processes (KAM & KBG, 2018). The declining performance suggests the need for sensing and sensing capability towards enhancing performance.

Research Problem

The consensus is increasing among scholars that organizational ambidexterity is important for business sustainability but it is not easily achievable (O'Reilly & Tushman, 2008). The exploitative and explorative activities in ambidexterity exhibit opposing features, and require diverse structural designs and supportive organizational contexts (Raisch & Birkinshaw, 2008). The resultant tensions and potential intra-organizational conflict may require trade-offs, often resulting in organizations favouring one activity at the expense of the other, thus making organizational ambidexterity difficult (Ghemawat & Costa, 1993).

The Kenyan manufacturing sector has great prospects for spurring growth in other sectors, including export and is one of the government's "Big Four agenda" pillars towards the attainment of Vision 2030 (GOK, 2018). However, the manufacturing sector's Gross domestic product(GDP) contribution declined from 10% in 2014 to 7.8% in 2018, while its growth is erratic; 2.5% in 2014, 3.6% in 2015, 3.1% in 2016, 0.7% in 2017 and 4.3% in 2018 (KNBS, 2019). The declining and erratic manufacturing firms' performance compounded by a fast-changing business environment curtails their ability to maximize current business potential and keep pace with environmental changes through innovation, thus threatening their survival. The declining performance also suggests that the strategies deployed have not been effective in enhancing performance.

The environmental changes and competition in the sector may require

organizational ability to be ambidextrous. This suggests that the manufacturing sector's performance may be influenced by its capacity for ambidexterity. However, it is not clear whether and how organizational ambidexterity influences the performance of Kenya's large manufacturing firms (LMFs). Also, there are limited studies conducted on organizational ambidexterity in the Kenyan manufacturing sector.

Despite the theoretical ambidexterity-organizational performance nexus, empirical studies testing this relationship are scanty and have yielded inconsistent results (Junni et al., 2013). Whereas some studies (Tamayo-Torres et al., 2017) reported positive ambidexterity - organizational performance relationship, Venkatraman, Lee and Lyer (2007) did not find a direct relationship while Popadic, Cerne & Milohnic (2015) reported negative effects. The above empirical studies have reported inconsistent results on the organizational ambidexterity and organizational performance relationships. Overall, there thus exist conceptual and contextual gaps. Therefore, this study seeks to establish the influence of organizational ambidexterity on the performance of LMFs in Kenya.

Literature Review

Duncan (1976) pioneered the concept of organizational ambidexterity, defining it as the capability of an organization to be simultaneously aligned and adaptive. The assumed generic meaning of the concept is the organizational capacity to concurrently conduct two diverse undertakings and equally well (Birkinshaw & Gupta, 2013). In this study, the definition adopted is the capacity of the organization to simultaneously exploit and explore (Patel, Messersmith & Lepak, 2013).

Exploitation entails being efficient and aligned in the current business through enhancement, proficiency, stability, and execution, while exploration necessitates adaptation to environmental changes through innovation (March, 1991). Scholars have divergent views on ambidexterity with supporters arguing that one-sided focus on either will lead to competence and failure traps, and ultimately obsolescence (O'Reilly & Tushman, 2011). Divergent scholars have argued that the two disparate activities may not be attainable (Ghemawat & Costa, 1993) due to resultant tensions (Koryak, Lockett, Hayton, Nicolaou & Mole, 2018), thus suggesting curtailed attainment of competitive advantage, lasting endurance, and superior organizational performance (Tushman & O'Reilly, 1996).

Organizational ambidexterity has attracted significant research attention due to its association with several favourable organizational outcomes (Wang & Rafiq, 2014) and responsiveness (O'Reilly & Tushman, 2013). Hence, it is critical for enduring organizational success and survival, but also difficult to attain (Ghemawat & Costa, 1993). Scholars have increasingly recognized organizational ambidexterity's major contribution to an organization's sustainability. The organization's capability to concurrently pursue two disparate undertakings and with equal dexterity is what is meant by organizational ambidexterity; namely the organization's capacity to concurrently exploit and explore (March, 1991; O'Reilly & Tushman, 2013). However, the reviewed literature reveals scanty and inconclusive organizational ambidexterity - performance linkage research results (Junni et al., 2013).

There are numerous empirical study findings reporting positive correlations

between ambidexterity and organizational performance. Hill and Birkinshaw (2014) research on the effect of ambidexterity on the survival of business units found a positive effect. However, the researchers acknowledge gaps including; lack of objectivity due to systemic data collection obstacles. In their study of the organizational ambidexterity effect on firm performance, Fu, Flood, and Morris (2016) reported a positive effect. Generalization of the findings is limited due to context-restrictive sampling frame, in terms of both industry and country. Tamayo-Torres et al. (2017) studied the manufacturing performance to organizational ambidexterity linkage and reported that manufacturing performance is positively and significantly affected by organizational ambidexterity. However, the findings generalization is constrained by possible informant bias in data collection and also a contextual limitation to Spanish manufacturing firms.

Also, there are researchers who have reported negative ambidexterity - organizational performance correlation. The results in the study on organizational ambidexterity and firms' innovation performance by Popadic et al. (2015) indicate negative organizational ambidexterity – innovation performance relationship. The limitations of the study include data inaccuracy due to shortcomings of the data source. In their analysis of small firm performance-efficiency-flexibility strategies relationships, Ebben and Johnson (2005) reported a negative effect of mixed efficiency and flexibility strategies on performance.

Mwangi (2017) in the study on IS integration, IT (Information Technology) capability, organizational ambidexterity (OA) and performance of Kenyan banks reported OA mediating effect on IT capability - performance relationship. Further, other studies have reported no effects for organizational ambidexterity on performance. For instance, Venkatraman et al. (2007) from whose conclusion that the ambidexterity hypothesis was not empirically supported. The current research will provide more understanding on the ambidexterity and performance relationship, thus ongoing debate contribution.

Conceptual Framework

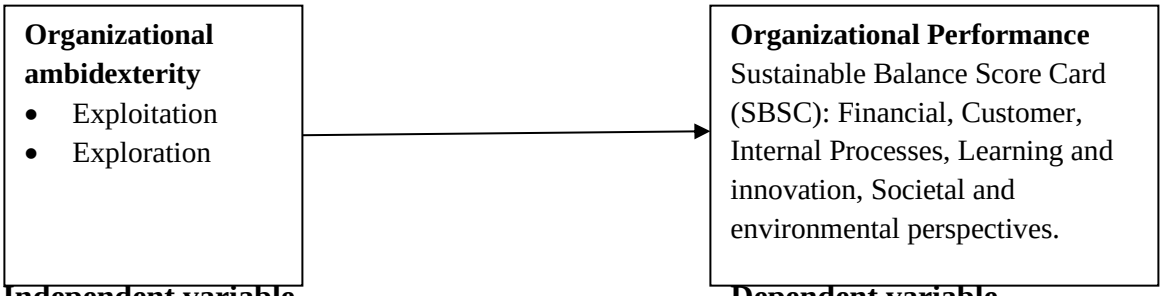

Figure 1.1: Conceptual Model

Source: Researcher (2019)

Theoretical Review

The study is anchored on Dynamic Capabilities theory (DCT). Proposed by Teece, et al. (1997), DCT extends Resource-Based View and focuses on capabilities deployed by firms for competitive advantages by enhancing the firm's sensing effectiveness and external environment dynamics adaptation seizing capability. Dynamic capabilities theory places emphasis on competitive survival in reaction to business environmental dynamism through dynamic capabilities deployment (Eisenhardt & Martin, 2000).

Dynamic capabilities are typically the managerial activities of sensing, seizing and reconfiguring, that can make a capability dynamic (Teece, 2007). Sensing entails the environmental scanning capability of an organization (Teece, 2007) from which opportunities are recognized, and competitive threats identified (Helfat & Peteraf, 2015). Seizing on the other hand refers to formulation and execution of appropriate organizational strategies for the exploitation of opportunities and eluding any threats, in line with its strengths and weaknesses (Teece, 2007).

Organization's capacity to concurrently undertake exploration and exploitation activities is organizational ambidexterity (O'Reilly & Tushman, 2008). Exploration relates to activities such as novelty, search, discover and change; which is similar to sensing, which is characterized by increased research activities. Exploitation in the contrary entails organizational processes, including production and through-put enhancement, implementation and monitoring; similar to seizing.

Dynamic Capabilities Theory provides a reliable tool for management practitioners by focusing on the organizations to quickly orchestrate and reconfigure externally sourced competence and therefore enabling adaptation to change as well as capability standards endurance (Peteraf, Stefano & Verona, 2013). Organizational ambidexterity is recognized as a major dynamic capability (Birkinshaw & Gupta, 2013). Organizational ambidexterity is linked to sustained enhanced performance, hence, the hypotheses:

$H0_1$: Organizational ambidexterity has no significant influence on the performance of large manufacturing firms in Kenya.

Research Methodology

The person conducting the research in the study was independent of the research objects, hence the study's adoption of the deductive approach. Moreover, the researcher concentrated on facts. The study also had predefined hypotheses and was therefore grounded on the positivist philosophy. A cross-sectional survey approach involving spot-on data collection about views, practices, and situations across population members (Cooper & Schindler, 2014), was adopted in the study.

The study was a census, with the population being all the 107 Kenyan LMFs. KAM (2018) classifies manufacturing companies with 50 and above employees and annual sales turnover of Kshs 1Billion and above as large. The definition was adopted for purposes of this study.

The study collected primary and secondary data. A structured questionnaire was the tool for primary data collection. Questionnaires were adapted from strategic management studies. These were modified to align with the current study objectives. The companies' annual financial statements were used to obtain secondary data on financial measures of performance.

Quantitative and qualitative data were incorporated into the questionnaire.

The questionnaire was delivered to the Managing Directors/Chief Executive Officers (MDs/CEOs) of the firms or with their permission, General Managers(GMs) or Heads of department (HODs) of Finance, Sales and Marketing, Human Resources and production. The questionnaire administration was by dropping and picking or sending by e-mail in cases where firms' e-mail addresses had been provided in the KAM directory or in accordance with the preference of the respondents.

Construct validity testing was done using factor analysis (Zapolski, Guller & Smith, 2012). The constructs of the variables (Organizational ambidexterity and Organizational performance) were subjected to extraction by means of principal component analysis (PCA), and rotation using varimax. The central aim of PCA is the orderly simplification of the number of interrelated measures, leading to data summarization. Therefore, it aids in isolating constructs and concepts.

A reliability test was undertaken on the instruments used for data collection using Cronbach's Alpha index for the model variables. Crocker and Algina (1986) conceptualize reliability as a measure of desired consistency in test scores. Numerous authors have placed the reliability threshold at the Alpha scale index of 0.7 (Bland & Altman, 1997). Field (2000) considers adequate a thresh-hold of 0.6 and higher. This study considers adequate an Alpha index of 0.7 and above.

The understanding of the questions in the questionnaire by the respondents was assessed during the pilot study. A randomly selected 5(five) firms from the study population were used in the questionnaire pretesting pilot study. The feedback collected guided review of the data collection questionnaire, and also helped avoid comprehension problem, therefore improving the questionnaire suitability.

The study's independent variable (organizational ambidexterity) was measured using exploration and exploitation variables. A combined perspective was applied, in which the two activities are considered orthogonal, but complementary, based on which ambidexterity was studied as the summed-up outcome (Blindenbach-Driessen & Ende, 2014). The measure reliably predicts the ambidexterity synergistic effect and was adapted from Hill and Birkinshaw (2014). The dependent variable (organizational performance) was measured by adopting measures of performance from sustainable balanced scorecard by Hubbard (2009) that considers six indicators of performance; financial, internal processes, customer satisfaction, learning, and innovation, societal and environmental perspectives, using Likert-scale instrument adopted with modifications from Hubbard (2009).

Data Analysis and Results

Table 1.1 shows the reliability output of Cronbach's Alpha test.

Table 1.1: Reliability Test

Variable	No.of items	Cronbach's Alpha
Organizational Ambidexterity	4	0.835
Organizational Performance	16	0.842

Source: Research Data (2019)

The study variables have a Cronbach's Alpha index above 0.70. Thus, the data collection instrument is therefore reliable.

Data is normally distributed if it is symmetrically around the centre of all scores (Field, 2009). For samples of 3 to 2,000, Shapiro -Wilk test should be used but if the sample size exceeds 2,000 then the Kolmogorov-Smirnov test applies (Field, 2009). The current study population included all the 107 LMFs in Kenya, thus justifying use of Shapiro-Wilk for normality test.The normality assumption was upheld with Shapiro-Wilk statistic greater than 0.5 (Razali & Yap, 2011; Field, 2009). Table 1.2 presents the normality test output.

Table. 1.2: Shapiro-Wilk Test for Normality

Variables	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Organizational Ambidexterity	.098	98	.022	.974	98	.052
Organizational Performance	.071	98	.200*	.979	98	.125
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

Source: Research Data (2019)

Out of the 107 firms, five (5) firms were used for the pilot study. The five (5) pilot study firms were excluded in the final questionnaire participation, therefore 102 questionnaires were sent out for the final study. Out of the 102 questionnaires completed and returned, four (4) questionnaires were incomplete and therefore rejected for analysis, leaving 98 questionnaires used for analysis. This is a 96 percent response from the target population of 102 LMFs. A 96% response rate was considered very good in light of the Awino and Gituro (2011) recommendation that in similar studies, a questionnaire feedback rate of above 65 percent is satisfactory. This study therefore considers the 96% response rate adequate.

The employee establishment is one of the determinants of firm size. Kenya Association of Manufacturers (KAM) categorized as large manufacturing firms with 50 and above employees (KAM, 2018). This is confirmed as per the study results in Table 1.3.

Table. 1.3: Number of Employees

No.of Employees	Frequency	%
Less than 100	-	-
101-200	36	37
201-300	39	40
Over 300	23	23
Total	**98**	**100**

Source: Research Data (2019)

KAM used sales revenue as an indicator of firm size (KAM, 2018). This study sought information on the firms' annual sales revenue in 2018. The output in Table 1.4 confirms the KAM classification in the 2018 listing of large manufacturing firms as those with annual sales turnover of Kshs 1Billion and above.

Table. 1.4: Year 2018 Annual Sales/Turnover (Kshs. Millions)

Turnover(Kshs.Millions)	No.of firms	Percentage
101-400	6	6
401-700	21	21
701-1000	37	38
Over 1000	34	35
Total	**98**	**100**

Source: Research Data (2019)

The hypothesized interaction was tested by simple linear regression analysis. The tests were conducted guided by the regression model: $OP = \beta 0_1 + \beta_1 OA + \varepsilon_{1;\ Where}$:

OP = Aggregate mean (composite) score of Organizational Performance; $\beta_{01,}$ $\beta_{1,}$ are regression coefficients; OA = Aggregate mean of the combined Individual organizational ambidexterity indicators; ε_1 = Error term. The findings are presented in Table 1.5.

Table 1.5: Regression Output for the influence of Organizational Ambidexterity on Organizational Performance

Model Summary						
Model	R	R Square	Adjusted R Square			Std. Error of the Estimate
1	.589[a]	.347	.341			.16877
ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.455	1	1.455	51.100	.000[b]
	Residual	2.734	96	.028		
	Total	4.190	97			
Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.994	.265		7.537	.000
	Organizational Ambidexterity	.494	.069	.589	7.148	.000
a. Dependent Variable: Organizational Performance						
b. Predictors: (Constant), Organizational Ambidexterity						

Source: Research Data (2019)

From the findings in Table 1.5, there is a moderately strong positive organizational ambidexterity - performance relationship (R=0.589). The results indicate a coefficient of determination (R^2=0.347). This implies that 34.70 percent of organizational performance is accounted for by organizational ambidexterity, while the rest (65.3 percent) is accounted for by variables outside current study scope.

The F-statistic of 51.100 is significant ($p < 0.05$) which is
model attained goodness of fit and robustness, thus suitab
study. The null hypothesis is rejected, given the less than 0
Thus, the study's conclusion that organizational ambidext
on the performance of LMFs in Kenya. Further, the model
significant ($p<0.05$) predictive power. The Beta of 0.494
ambidexterity variation results in 0.494 units posit
performance. The study findings confirm that organ
significant influence on the performance of Kenyan LMF

Conclusion, Implications of the study and Recommendations

The study objective was to determine the organizational ambidexterity influence on the performance LMFs in Kenya and the corresponding hypotheses $H0_1$: Ambidexterity has no significant influence on performance of LMFs in Kenya. This was achieved by establishing positive and significant organizational ambidexterity influence on Kenyan LMFs performance. The study conclusion based on this result is that organizational ambidexterity contributes to the achievement of enhanced organizational performance.

The study results have implications on theory, knowledge, managerial practice, and policy. This study advances research and literature on organizational ambidexterity focusing on performance implications of an organization's simultaneous engagement in exploitation and exploration activities. The study adds into the empirically tested research findings on organizational ambidexterity and performance relationship, thus contributes to knowledge. Also, the findings of the study enhance the replication of similar studies in a different context, thus fostering comparative study. The research contributes to DCT by establishing that organizational ambidexterity influences performance outcomes. The research thus supports dynamic capabilities theory.

The study outcomes are significant in influencing government policy. The government will benefit in formulating policy on the manufacturing sector from the understanding of organizational ambidexterity effects on organizational performance. The study established positive and significant influence of the concurrent exploration and exploitation undertakings (organizational ambidexterity) on performance of Kenyan LMFs. Policymakers are therefore ably guided and advised to formulate policies that encourage duality in the manufacturing sector. The sector players should be inspired and supported to simultaneously pursue exploration and exploitation as opposed to focus on of only one of either activity.

The research outcomes have management and practice implications. The study findings established positive and significant organizational ambidexterity – performance association on Kenyan LMFs. Management is now enabled in simultaneously exploiting current competencies while exploring future opportunities, thus achieve the organization's enhanced performance.

The research recommends that LMFs need to formulate adequate strategies to ensure success in simultaneous pursuance of exploration and exploitation activities that would therefore contribute to new innovation as well as efficiency and effectiveness enhancement in the current business. The study therefore recommends that policymakers should embrace organizational ambidexterity for the attainment of Kenya's Vision 2030

Suggestions for Further Study

The data in this research was collected from a single source. One senior manager (CEO /MD/GM or HOD) provided the data by responding to the questionnaire which covered the various variables of the research. Relying on a response from one person in a big organization may have some limitations; such as single source and social desirability bias. Future researchers should involve more people across the management hierarchy and in different settings such as focus groups.

Cross sectional research design was used as the research design. Longitudinal design

can be considered in future where the impact of organizational ambidexterity on organizational performance over time and to determine causal association, thus overcome the cross sectional research design limitations. This is especially considering the general dynamism and long term nature of the causality relationships.

This study was based on Kenyan LMFs. Future researchers should consider replication in other African countries to determine the similarities or differences. Also, research should be conducted in Kenyan small and medium manufacturing enterprises. Further, a comparative study, replicating this study in a big population covering many industries should be considered. Such large population would be a useful extension of this study and would further enrich the current findings.

References

Awino, Z.B. & Gituro, W. (2011). An Empirical Investigation of Supply Chain Management Best Practices in Large Private Manufacturing Firms in Kenya. *Prime Journal of Business Administration and Management,* 1(2), 25-30.

Birkinshaw, J. & Gupta, K. (2013). Clarifying the distinctive contribution of ambidexterity to the field of organization studies. *The Academy of Management Perspectives*, *27*(4), 287-298.

Bland, J. M. & Altman, D. G. (1997). Statistics notes: Cronbach's alpha. *Business Management Journal*, *314*(7080), 572.

Blindenbach-Driesen, F. & Ende J. (2014). The Locus of Innovation: The Effect of a Separate Innovation Unit on Exploration, Exploitation, and Ambidexterity in Manufacturing and Service Firms. *Journal of Product Innovation Management*, 31(5), 1089-1105.

Cooper, D. R. & Schindler P. S. (2014). *Business research methods (12th Edition):* McGraw-Hill Irwin.

Crocker, L. J. & Algina, J. (1986). *Introduction to classical and modern test theory*. New York: Holt, Rinehart and Wiston.

Ebben, J. J. & Johnson, A. C (2005). Efficiency, flexibility, or both? Evidence linking strategy to performance in small firms. *Strategic Management Journal*, 26(13), 1249–1259.

Eisenhardt, K. M. & Martin, J. A. (2000). Dynamic capabilities: what are they? *Strategic management journal*, 1105-1121.

Field, J. (2000). *Lifelong learning and the new educational order*. Trentham Books, Ltd.

Field, A. P. (2009). *Discovering statistics using SPSS*. Sage publications, third edition. London

Fu, N., Flood, P.C. & Morris, T. (2016). Organizational Ambidexterity and Professional Firm Performance: The Moderating role of Organizational Capital. *Journal of Professions and Organizations*, 3, 1-16.

Ghemawat, P. & Ricart Costa, J. E. (1993). The organizational tension between static and dynamic efficiency. *Strategic management journal*, *14*(S2), 59-73.

Government of Kenya (2018)

Helfat, G.E. and Peteraf, M.A. (2015).Managerial cognitive capabilities and the microfoundations of dynamic capabilities. *Strategic Management Journal*, 36,831-850.

Hill, S. A. & Birkinshaw, J. (2014). Ambidexterity and survival in corporate venture units. *Journal of management*, *40*(7), 1899-1931.

Hubbard G. (2009). Measuring organizational performance: Beyond the triple bottom line. *Business Strategy and Environment*, 19, 177-191.

Jenatabadi, H.S. (2015). An Overview of Organizational Performance Index: Definitions and Measurements. http://dx.doi.org/10.2139/ssrn.2599439

Junni, P., Sarala, R. M., Taras, V. & Tarba, S. Y. (2013). Organizational ambidexterity and performance: A` meta-analysis. *The*

Academy of Management Perspectives, *27*(4), 299-312.

Kaplan R, Norton D. 1992. *The Balanced Scorecard*. Harvard Business School.

Kenya Association of Manufacturers (2018). *Kenya manufacturers and exporters directory*. Nairobi: KAM.

Kenya Association of Manufacturers/Kenya Business Guide (2018). *Manufacturing in Kenya under the "Big 4 Agenda". A Sector Deep-dive Report.*

Kenya National Bureau of Statistics (2019). *Economic Survey Report*.

Kerlinger, N. F. (2008). *Foundations of behavioural research*. New Delhi: Surjeet Publications.

Koryak, O., Lockett, A., Hayton, J., Nicolaou, N. & Mole, K. (2018). Disentangling the antecedents of ambidexterity: Exploration and Exploitation. *Research Policy*, 47, 413–427.

March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization science*, *2*(1), 71-87.

Miller, D. & Friesen, P. H. (1983). Strategy-making and environment: the third link. *Strategic management journal*, *4*(3), 221-235.

Mugambi, G. & K'Obonyo, P. (2012). The predictive value of contextual factors on corporate performance in Kenya. *Prime Journal of Business Administration and Management*, *2*(10), 709-725.

Mwangi, K. (2017). Information Systems Integration, Information Technology Capability, Organizational Ambidexterity and the Performance of banks in Kenya. *Unpublished PhD Thesis. School of Business, University of Nairobi*.

O'Reilly, C. A. & Tushman, M. L. (2008). Ambidexterity as a Dynamic Capability: Resolving the Innovator's Dilemma. *Research in Organizational Behaviour*, 28, 185-206.

O'Reilly, C. A. & Tushman, M. L. (2011). Organizational ambidexterity in action: How managers explore and exploit. *California Management Review*, *53*(4), 5-22.

O'Reilly, C. A. & Tushman, M. L. (2013). Organizational Ambidexterity: Past, Present, and Future. *The Academy of Management Perspectives*, 27(4), 324–338.

Patel, P.C., Messersmith, J.G. & Lepak, D.P. (2013). Walking the tightrope: An assessment of the relationship between high-performance work systems and organizational ambidexterity. *Academy of Management Journal*, 56(5), 1420–1442.

Peteraf, M., Di Stefano, G. & Verona, G. (2013). The elephant in the room of dynamic capabilities: Bringing two diverging conversations together. *Strategic Management Journal*, *34*(12), 1389-1410.

Popadić, M., Černe, M. & Milohnić, I (2015). Organizational Ambidexterity, Exploration, Exploitation and Firms Innovation Performance. *Organizacija Research papers*, 48(2).

Raisch, S. & Birkinshaw, J. (2008). Organizational ambidexterity: Antecedents, outcomes, and moderators. *Journal of management*, *34*(3), 375-409.

Razali, N. M. & Yap, B.W. (2011). Power Comparisons of Shapiro-Wilk, KolmogorovSmirnov, Lilliefors and Anderson-Darling Tests. *Journal of Statistical Modeling and Analytics*, 2, 21-33.

Sekaran, U. & Bougie, R. (2016). *Research Methods for Business: A skill building approach*. 7th Ed. John Wiley & Sons.

Tamayo-Torres, J., Roehrich, J. K. and Lewis, M.A. (2017). Organizational ambidexterity, manufacturing performance and environmental dynamism. *International Journal of Operations & Production Management*, 37(3), 282-299.

Teece, D.J. Pisano, G.and Shuen, A. (1997).Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.

Teece, D.J. (2007).Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319-1350.

Tushman, M. L. & O'Reilly, C. A. (1996). Ambidextrous organizations: Managing evolutionary and revolutionary change. *California management review*, *38*(4), 8-29.

United Nations Industrial Development Organization (2012).

Valmohammadi, C. (2012). Investigating innovation management practices in Iranian organizations. *J. Innov.: Manag. Policy Pract.* 14 (2), 247–255.

Venkatraman, N. & Ramanujam, V. (1986). Measurement of business performance in strategy research: A comparison of approaches. *Academy of management review*, *11*(4), 801-814.

Venkatraman, N., Lee, C. H. & Lyer, B. (2007). Strategic ambidexterity and sales growth: A longitudinal test in the software sector. In *Unpublished Manuscript (earlier version presented at the Academy of Management Meetings, 2005)*.

Wang, C.L. & Rafiq, M. (2014) Ambidextrous Organizational Culture, Contextual Ambidexterity and New Product Innovation: A Comparative Study of UK and Chinese High-tech Firms. *British Journal of Management*, 25, 58–76.

Yang, L., Huang, C. & Hsu, T. (2014). Knowledge leadership to improve project and organizational performance. *International Journal of Project Management*, 32, 40–53.

Zapolski, T.C., Guller, L.C., & Smith, G.T. (2012). Construct validation theory applied to the study of personality dysfunction. *Journal of Personality*, 80(6), 1507-1531.