

Original Research Article

Relationships among Structural Adaptations, Strategy Implementation and Performance of Manufacturing Small and Medium Firms in Thika, Kenya

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ABSTRACT

This paper examined the relationship between structural adaptations during strategy implementation and performance of small and medium manufacturing firms (SME) in Thika Sub-County in Kenya. Three structural dimensions investigated in this study included the formalization, centralization and specialization of functions. The study is underpinned in McKinsey's 7-S / Higgins 8-S strategy frameworks and the dynamic capabilities view of the firm. Guided by the philosophy of logical positivism, a mixed research design was adopted. A self-administered questionnaire was used to collect primary data from 115 SME manufacturing firms using a simple random sampling procedure from a total population of 165 SME manufacturing firms. Pearson's correlation and OLS regression analysis was used for data analysis. The study found statistical evidence that structural adaptations of the SME firm ($r = .442^{**}$, $P < .001$) are positively and significantly related to its performance. Among the structural dimensions examined, the study found that formalization ($r = .456^{**}$, $P < .001$) and specialization ($r = .350^{**}$, $P < .001$) are positively and significantly related to SME's performance. However, centralization ($r = .159$, $P = .09$) was found to be positively related to the SME's performance but the relationship is statistically insignificant.

Key Words, Strategy Implementation, Structural adaptations, Dynamic Capabilities, Firm's Performance

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25 **1. INTRODUCTION**

26 The strategic management literature has identified structural adaptations of the firm as one
27 of the key drivers in successful strategy implementation process. The three structural
28 dimensions that affect communication, co-ordination and decision making, which are core to
29 strategy implementation, are formalization, centralization and specialization (Oslo, Slater &
30 Hult, 2005). The relationship between structure and strategy an organization adopts was first
31 championed by Chandler (1962). He argued that the strategy of an organization determines
32 the long term goals and objectives. In order to do this better, there is the need, in the
33 organization, to determine the course of actions, allocate adequate resources and determine
34 the appropriate structure that supports a given strategy.

35 Organizational structure and strategy are related because organizational strategy helps the
36 organization to define and build an appropriate organization structure that enables the
37 accomplishment of the set goals and objectives. A good structure in an organization defines
38 how employees work together and it clearly establishes the roles and responsibilities each
39 employee performs in order to support the achievement of the set goals and objectives. The
40 type of structure adopted in an organization also determines the number of employees and
41 managers required. Due to the market dynamics such as competition, demographic
42 changes, technological advancements and other environmental changes, strategy
43 formulation and implementation is a dynamic process and organizations generates new
44 strategies from time to time that dictates structural revisions and new alignments to suit the
45 environmental dynamism and the resultant strategic changes that take place in a given
46 industry.

47 This study intended to establish whether the structural adaptations adopted by SME
48 manufacturing firms significantly influence its performance. The study found statistical
49 evidence that structural adaptations of the manufacturing SME firm, in deed, have a positive
50 and significant relationship with its performance. Among the structural dimensions identified
51 by Oslo *et al.*, (2005) the study established that formalization and specialization in the

52 SME's structure are the key determinants of superior performance among these firms while
53 centralization of the decision making does not necessarily contribute to better performance.

54

55 In an environment that is highly competitive like the one that SME manufacturing firms finds
56 themselves today, there is the need to follow proper procedures of doing work, maintain
57 strong rules and regulations that ensures that these firms move in the right direction,
58 produces superior products and sustain a desirable competitive edge among the rival firms.
59 It is also observed from this study that the SME manufacturing firms that allow employees to
60 work in areas that they have ample skills and training performs better than their rival firms in
61 the industry. Centralization of the decision making process does necessarily leads to better
62 performance in an organic environment that characterizes the operations of SME
63 manufacturing firm's environment in Kenya today. The economy is getting liberalized each
64 day and SME's find themselves competing with products from a global platform hence the
65 need to decentralize their decision making processes in order to remain competitive.

66

67 **1.2 Statement of the problem**

68 Strategy implementation involves effective translation of the chosen strategy into various
69 actions and activities that leads to the realization of organizational goals and objectives
70 (Jouste & Fourie, 2009). Implementation of a strategy is an important activity in an
71 organization which is even more important than strategy formulation itself (Sage, 2015).

72

73 Past studies in strategic management have documented a high failure rate in strategy
74 implementation globally. Between 60 to 80 % of all organizations engaged in strategic
75 planning either fails or seriously struggles during strategy implementation process and this
76 makes it difficult for firms to fully realize and achieve their dreams (Carter & Pucko, 2010,
77 Sage, 2015). In Kenya, the manufacturing sector has performed poorly over the years with
78 the medium and large scale enterprises lagging behind micro and small manufacturing firms
79 in terms of growth and employment creation (Kippra, 2013). The 2013 Kenyan Economic
80 Report documents a decline in the growth and performance in the manufacturing sector only
81 contributing 14.2 percent of total value addition. According to this report, the dismal

performance in the manufacturing sector in Kenya is likely to slow down the country's economic growth and the realization of vision 2030 strategic plan.

To improve performance, the manufacturing SME firms need to fully embrace strategic planning and focus keenly on what is required of them in order to accomplish their goals and objectives. However, past studies show that not all SME firms in Kenya undertake strategy management practices (Gakure & Amurle, 2013). While previous studies in the western world have documented a positive relationship between strategy implementation and SME's firm's performance (Sorooshian *et al.* 2010) no such a study has been conducted a developing economy like Kenya. The review of literature also indicated that there is very little empirical evidence on how strategy implementation influences the performance of SME's in the developing countries.

Several studies have been carried out in the past on the SME's strategic management practices in Kenya (Awino, 2013; Bowen, Morara & Mureithi, 2009; Gakure & Amurle, 2013; Okwachi *et al.*, 2013). However, these studies focused their attention on strategic planning at the expense of strategy implementation. None of the previous studies in Kenya attempted to relate strategy implementation and performance of manufacturing SME firms. This study, therefore, undertook to fill this gap by examining whether strategy implementation relates positively to the performance of manufacturing SME firms operating in Thika Sub-County in Kenya and whether structural adaptations variable is a major driver influencing strategy implementation and performance in the manufacturing SME's in Thika Sub-County in Kenya.

1.3 The Purpose of the study

This study intended to establish the relationships among structural adaptations, strategy implementation and performance of manufacturing SME firms in Thika Sub-County in Kenya

1.4 Specific Objectives of the study

This study was guided by the following specific objectives;

1. To establish the relationship between structural adaptation during strategy implementation and performance of SME manufacturing firm in Thika Sub-County
2. To determine whether formalization during strategy implementation influences performance of SME manufacturing firm in Thika Sub-County

115 3. To find out whether centralization of decisions during strategy implementation
116 influences performance of SME manufacturing firm in Thika Sub-County

117 4. To establish whether specialization of functions during strategy implementation
118 influences performance of SME manufacturing firm in Thika Sub-County

119

120 **1.5 Research Questions**

121 This study sought to answer the following questions;

122

123 1. What is the relationship between adaptations in the organizational structure and
124 performance of SME manufacturing firms in Thika Sub-County, Kenya?

125 2. Is there a relationship between formalization in the structure and performance of the
126 manufacturing SME firms in Thika Sub-County, Kenya?

127 3. Is there a relationship between centralization of decision making and performance of
128 the manufacturing SME firms in Thika Sub-County, Kenya?

129 4. Is there a relationship between specialization of functions and performance of
130 manufacturing SME firms in Thika Sub-County, Kenya?

131

132 **2. LITERATURE REVIEW**

133 A structure is a hierarchical arrangement of duties and responsibilities, lines of authority,
134 communications and coordination in an organization. It refers to the shape, division of
135 labour, job duties and responsibilities, distribution of power and decision making procedures
136 within a company (Okumus, 2003). Higgins (2005) views an organizational structure in
137 terms of five different elements that make a structure namely, the job itself, the line of
138 authority to perform these jobs, the grouping of jobs in a given order that allows
139 achievement of the objectives, the coordination mechanism applied by managers to
140 supervise jobs effectively and the span of control that shows the number of subordinates
141 that a manager can effectively supervise. He posits that the success in a given
142 organization is determined by how well the organization is structured along its business
143 strategy.

144 Studies on organizational structure dates back in 1960s when Alfred Chandler studied
145 hundreds of American large companies in order to establish the relationship between
146 organization's strategy and its structure (Robbins, 2006). His study came into a conclusion
147 that modifications in the strategy of these companies led to changes in their structure.
148 Expansion of the production line in these companies necessitated revision of their structures
149 so that they can cope with the increased output and conform to the new strategies.
150 According to Chandler (1962) an organization structure must follow her strategy for better
151 performance. Companies with limited product lines initially had centralized structures with
152 less complexity and formality but when they increased and diversified their production lines,
153 they were forced to adapt different structures that matched their new strategy. Chandler
154 (1961) concluded that when an organization diversifies, they must employ different structure
155 compared to firms that follow single-product strategy (Robbins, 2006). Burns and Stalker
156 (1961) studied about 20 British and Scottish companies with an aim of finding out how their
157 managerial activities and structures differed in relation to changes in the environment. They
158 found out that the structures adopted by organizations operating under stable environmental
159 conditions differed from those operating in a dynamic environment. In a stable environment,
160 organizations tended to adopt a mechanistic structure that is characterized by low
161 differentiation of tasks, low integration between departments and functional areas,
162 centralization of decision making and standardization and formalization of tasks.
163 Organizations operating in a dynamic environment tended to adopt a more flexible organic
164 structure that allows for changes to be made in line with the environmental changes. Organic
165 structures are characterized by high differentiation of tasks, high integration of departments
166 and functional areas with rapid communication and information sharing, decentralized
167 decision making mechanisms and little formalization and standardization of tasks and
168 procedures. They came to a conclusion that firms will adopt a structure in relation to the
169 environment they are operating in. Most of businesses today operate in a dynamic and
170 turbulent environment and therefore are likely to adopt an organic structure that allow for

171 changes and modifications to be made in line with changes taking place in the environment
172 (Robbins, 2006)

173 However, variant to Burns and Stalker's study, Sine, Mitsuhashi and Kirsch (2006) posits
174 that the effect of structure is contingent to the stage of development in an organization. In
175 their study, they found out that structures increases performance of new ventures even in
176 the context of very dynamic sector. This applies to small organizations and start-ups where
177 the study also found out that firms with a larger number of employees tended to outperform
178 those with small number and that new ventures that formalize functional assignments and
179 assign important tasks to team members who specialize in those assignments outperform
180 firms whose founding teams have relatively undefined roles. They came to a conclusion that
181 in a dynamic, turbulent and uncertain environments, new and mature organizations face
182 fundamentally different challenges requiring different approaches to organizational structure.
183 Whereas mature organizations with well-defined structure and embedded practices need to
184 become more organic and flexible in order to adapt to dynamic environments, the opposite is
185 true for new ventures because they are already flexible and attuned to the environment but
186 what they need are the benefits of organizational structure which they lack, lower role
187 ambiguity, increased individual focus and discretion, lower coordination costs and higher
188 levels of organizational efficiency. This leads to the following null and alternative hypotheses;
189

190 *H₀₁ The relationship between structural adaptations during strategy implementation and*
191 *performance of manufacturing SME firm in Kenya is insignificant*

192 *H₁ There is a significant positive relationship between attention to structural requirements during*
193 *strategy implementation and performance of SME manufacturing firm in Kenya*

194

195 A study of 200 senior managers in United States of America by Oslon, Slater and Hult
196 (2005) revealed that performance of an organization is largely influenced by how well a
197 firm's business strategy is matched to its organizational structure and behavioral norms of its

198 employees. The researchers identified three structural dimensions that affect strategy
199 implementation and performance in an organization that is formalization, centralization and
200 specialization. Formalization is the degree to which decisions and working relationships are
201 governed by formal rules and procedures. The benefits of using rules and procedures
202 include defining and shaping of employee behaviour, problems are solved easily, activities
203 are organized to the benefit of individuals and the organization, efficiency and lower
204 administrative costs and the firm is able to exploit previous discoveries and innovations. This
205 leads to the following alternative null and alternative hypotheses;

206

207 *H₀₂ The relationship between formalization and performance of manufacturing SME firm in Kenya*
208 *is insignificant*

209 *H₂ There is a significant positive relationship between formalization and performance of SME*
210 *manufacturing firms in Kenya*

211

212 Centralization is the decision making authority which is held by the top, middle or lower level
213 managers in a firm. In a centralized structure, the top layer of management has most of the
214 decision making power and has tight control over departments and divisions.
215 Communication much easier and faster, while there are only few innovative ideas,
216 implementation is much straight forward and faster once the decision has been made. The
217 benefits of a centralized structure are only realized in stable noncomplex environments while
218 specialization refer to the degree to which tasks and activities are divided in an organization
219 (Osilon *et al.*, 2005). This leads us to the following null and alternative hypotheses;

220

221

222 *H₀₃ The relationship between centralization and performance of manufacturing SME firm in Kenya*
223 *is insignificant*

224 *H₃ There is a significant positive relationship between centralization and performance of SME*
225 *manufacturing firms in Kenya*

226

227 A study by Meijaard, Brand and Mosselman (2005) entitled “organizational structure and
228 performance of Dutch small firms” found out that small firms occur in a wide variety of
229 organizational structures with various degree of departmentation. Secondly, departmentation
230 in these firms has a strong correlation with firm's size. A third finding is that decentralized
231 structures perform well in several contexts notably in business services and manufacturing.
232 Firms with strong centralization and strong vertical specialization only occur and only
233 perform well in relatively simple structures. Apparently for large firms, strict vertical
234 specialization requires at least some decentralization in order to be efficient. The fourth
235 finding is that hierarchical, centralized structure with strong specialized employees occurs
236 frequently in SMEs and performs well in terms of growth. In combination with complex
237 coordination mechanisms, hierarchically structured and departmentalized firms with
238 formalized tasks and specialized employees perform well in terms of growth as well,
239 particularly in manufacturing and financial services. Non specialized, simple organizational
240 structures in business services perform well in term of profit to sale ratios. They finally
241 concluded that given contextual conditions, different types of organizational structures
242 perform well. This leads us to the following null and alternative hypotheses;

243

244 *H₀₄ The relationship between work specialization and performance of manufacturing SME firm in*
245 *Kenya is insignificant*

246

247 *H₄ There is a significant positive relationship between work specialization and performance of*
248 *SME manufacturing firms in Kenya*

249 Organizations need to pay more attention to their structures and restructure according to the
250 environmental needs from time to time achieve better performance. A study by Leitao and
251 Franco (2011) on the individual entrepreneurship capacity and SMEs performance found out
252 that the economic performance of SMEs is positively affected by maintenance of efficient

organizational structure and at the same time the non-economic performance of SMEs is also affected by enthusiasm at work, incentives and maintenance of efficient organizational structure in a dynamic environment. These findings reinforce the idea that organizational structure affects organizational performance.

3. CONCEPTUAL FRAMEWORK

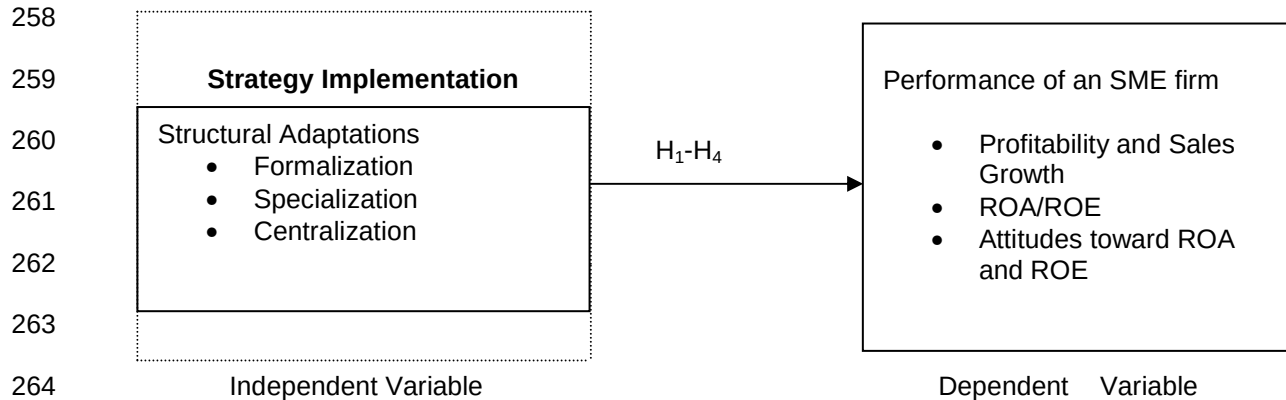


Fig 1.0 Relationship between Structural Adaptations and Manufacturing SME's Performance

4. THEORETICAL FRAMEWORK

4.1 Higgins 8-S Framework

Higgins (2005) revised the original McKinsey's 7-S framework and developed the 8-S framework for implementing strategies in organizations. The famous and widely applied 7-S strategy implementation framework was developed in 1980's by Tom Peters and Bob Waterman (1982). In their study of the "best run" American companies, Peters and Waterman identified seven key components that managers need to pay attention when implementing organizational strategies. These components (Pearce & Robinson, 1991) include the system, structure, systems, skills, staff, style and shared values which are all intertwined.

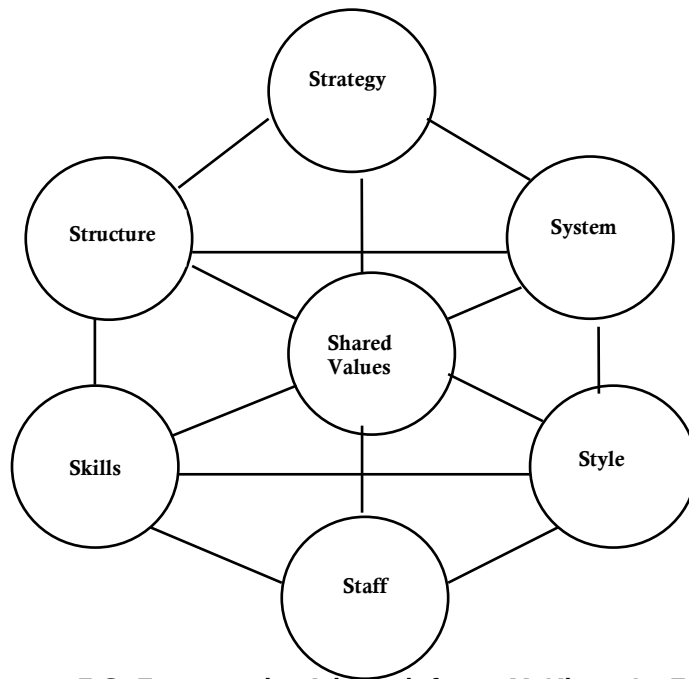


Figure 2.2 McKinsey 7-S Framework: Adopted from *McKinsey's 7-S Framework: (Pearce & Robinson, 1991)*

Higgins (2005) then revised and improved the McKinsey's 7-S model by adding the 8th S component (Strategic performance) which is the derivative or outcome of the interaction of 7-S's components contained in the original McKinsey's 7-S's framework. He also replaced skills as one of the contextual "S" with Re-Sources since organization cannot successfully implement strategy without marshalling additional resources such as money, information, technology and time.

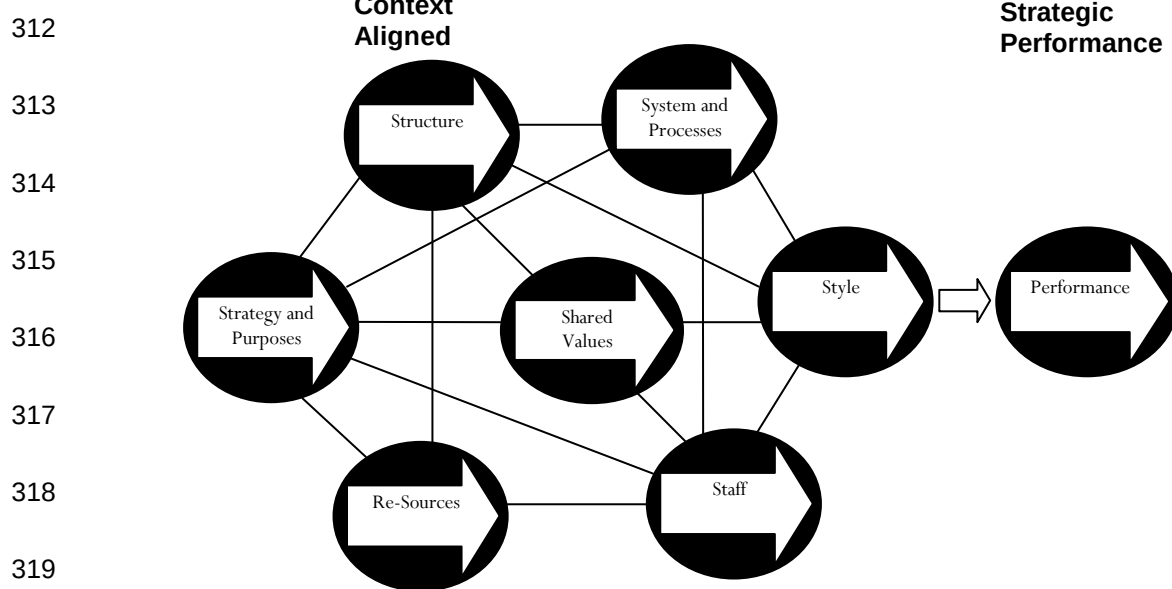
Higgins pointed out that the 8-S's framework enables a manager to work more efficiently and effectively in managing the cross-functional duties and activities associated with strategy implementation. He observed that executives who realize that strategy implementation is as important as strategy formulation usually spend a lot of their time and efforts in strategy execution and this enables their organizations achieve better performance.

The 8-S's framework states that successful strategy implementation revolves around aligning the key organizational components (the 8-S's) with the strategy that the organization

intends to implement. However, due to environmental dynamism and changes that take place in organization's business environment now and then, it is important for managers to continue reshaping their strategies in line with these changes. Therefore, this call for a continuous realignment of the 8-S's components in line with the new strategy and this presents the greatest challenge to managers in their endeavor to successfully implementation strategies.

Since the 8-S's components are intertwined, the executives in the organizations must continuously align all these eight cross-functional components with the new strategy for successful strategy execution and better performance (Higgins, 2005).

311



320 **Figure 2.3 Higgins's 8-S Framework. Source: Higgins, (2005):6, *Journal of Change***
 321 ***Management 5 (1)***

322 **4.2 The Dynamic Capability View of the Firm**

323 The Dynamic Capabilities View of a firm, which was launched by David Teece in early
 324 1990s, is based on the works of Barney (1991), Rumelt (1984) and Wernerfelt (1984). The

325 framework is an advancement of the Resource-Based View (RBV) of the firm which views
326 resources as the key to superior organization performance. The dynamic capability theory
327 (Eisenhardt & Martin, 2000) is based on the concept that organizations will always attempt to
328 renew their resources in a way that suits the changes taking place in a dynamic
329 environment. According to Teece, Pisano and Shuen (1997), the dynamic capability view
330 examines how firms are able to integrate, build, and reconfigure their specific competencies
331 (internal or external) into new competencies that match changes taking place in a turbulent
332 environment (Helfat, Finkelstein, Mitchel, Peteraf, Singh, Teece & Winter, 2007). The theory
333 is based on the assumption that firms with greater dynamic capabilities will always
334 outperform those with smaller dynamic capabilities. Therefore, operations in a dynamic
335 environment call for firms to continuously renew, re-engineer and regenerate their internal
336 and external firm's specific capabilities in order to remain competitive (Teece, 2007). The
337 dynamic capabilities are hard to develop and difficult to transfer because they are tacit and
338 are embedded in a unique set of relationships and histories of a firm. Ordinary capabilities,
339 according to RBV, are about doing things right whereas dynamic capabilities are about doing
340 right things at the right time based on unique processes, organizational culture and prescient
341 assessments of the business environment and technological opportunities surrounding a firm
342 (Teece, 2007) .Strong dynamic capabilities (Teece, 2014) include processes, business
343 models, technology, and leadership skills needed to effectuate high performance sensing,
344 seizing and transforming an organization.

345

346

347 **5. RESEARCH METHODOLOGY**

348 **5.1 Study Population and Sample**

349 This study was guided by the philosophy of logical positivism which argues that a statement
350 is only meaningful if it can be proven to be true or false. Under this philosophy, knowledge is
351 accumulated through logical reasoning and empirical experience (Creswell, 2003; Scotland,
352 2012). A triangulation of three designs was used which incorporated the quantitative,
353 qualitative and descriptive. This approach had been used by several scholars in the past in
354 similar studies because of its ability to increase validity of the outcomes while at the same
355 time compensating for the weaknesses of each method used (Creswell & Plano, 2011,
356 Johnson & Onwuegbuzie, 2004; Northhouse, 2013).

357 From a total population of 165 manufacturing firms in Thika Sub-County, a sample of 115
358 firms was selected using a simple random sampling procedure. To collect data, a self-
359 administered questionnaire was issued to the owner/CEO or lead manager in each firm
360 selected. Data was collected for a period of eight months from August 2015 to February
361 2016 and all questionnaires were filled hence the response rate was 100%.

362 **5.2 Reliability Test**

363 To test the internal consistency of the questionnaire, reliability test was carried out on the
364 dependent and the explanatory variables and the Cronbach's alpha was obtained.
365 Performance of the SME firm recorded an alpha of 0.815 while structural adaptations
366 recorded alpha of 0.705. According to Cronbach, an alpha level of 0.7 to 1.0 is acceptable.

367 **5.3 Data Analysis**

368 The descriptive statistics comprising of the mean scores and standard deviations on
369 performance and structural adaptations psychometric constructs were obtained and the
370 results are shown in table 1.0 and 2.0 respectively.

371 The Spearman's Rho was used to indicate the relationship between dependent and
372 independent variables of this study and their corresponding p-values. The OLS univariate
373 and multiple regression analysis were then used to test the proposed hypotheses and also to
374 show the nature of the relationships between structural adaptations and manufacturing SME

375 firm's performance. The F-Statistics was also used to show the model validity while R^2 was
376 used to show the model's goodness of fit.

377

378 **5.4 Research Model**

379 The functional relationship equations representing the interactions between structural
380 adaptations variable (X_1), structural dimensions and manufacturing firm's performance used
381 in this study are stated respectively as follows;

382 $Yf(X_1) + \epsilon \dots\dots\dots (1)$

383 $Yf(X_{11}, X_{12}, X_{13}) + \epsilon \dots\dots\dots (2)$

384 Where;

385 Y is the SME manufacturing firm's performance

386 X_1 is the structural adaptations of the SME firm

387 X_{11} is the formalization of the SME structure

388 X_{12} is the centralization in the SME structure

389 X_{13} is the specialization of functions in the SME structure

390 ϵ is the error term

391

392 From equations (1) and (2), the following univariate and multiple regression models
393 respectively were derived respectively;

394 $Y = \beta_0 + \beta_1 X_1 + \epsilon \dots\dots\dots (i)$

395 $Y = \beta_0 + \beta_1 X_{11} + \beta_2 X_{12} + \beta_3 X_{13} + \epsilon \dots\dots\dots (ii)$

396 Where

397 β_0 is the constant

398 β_i is the coefficient of X_i for $i = 1, 2, 3$

399

400 **6. MEASUREMENT OF VARIABLES**

401 **6.1 Manufacturing Firm's Performance**

402 The performance of a firm was measured by the degree of satisfaction on the levels of
403 profitability, Return on Assets (ROA), Return on Equity (ROE) and sales turnover. Due to the
404 sensitivity of obtaining information related to financial performance where owners of a firm
405 were not willing to cooperate or information was not available, A 5 point Likert scale
406 psychometric instrument (Boone & Boone, 2012) was developed to capture financial
407 information using indirect measures of performance which were based on owner's
408 perceptions on SME performance for a period of five years. The scale ranged from (1=
409 Strongly Disagree, 2= Disagree 3= Not Sure, 4=Agree, 5= Strongly Agree). The mean score
410 was then calculated as an average of the 5 items examined on the enterprises' perceived
411 performance. The higher the score, the better the statement is in terms of the firm's
412 perceived performance.

413 **6.2 Structural Adaptations of the Manufacturing SME firm**

414 Structural Adaptations in a manufacturing SME firm was measured by the extent to
415 which the firm matches her new strategy with a good structure that supports what the
416 manufacturing SME firm want to achieve. The variable was broken down into three main
417 structural dimensions identified by the literature namely; formalization, specialization and
418 centralization. In order to measure the structural adaptations during strategy
419 implementation process, a 5-items Likert scale psychometric instrument was used (Boone &
420 Boone, 2012) which ranged from (1= Strongly Disagree, 2= Disagree 3= Not Sure, 4=Agree,
421 5= Strongly Agree). The mean score was then computed as the average of the 5 items. The
422 higher the score, the more the variable is important to the performance of small and medium
423 manufacturing firms in Kenya.

424

425 **7. RESULTS AND DISCUSSIONS**

426 **Table 1.0: Descriptive Statistics on the Manufacturing SME' Performance**

Performance Constructs	N	Mean	Std. Dev
Our Total Profits (Total sales – Costs) have been increasing yearly	115	4.139	.475
The volume of sales has been increasing ever yearly	115	4.078	.664
The number of employees has been rising every year	115	3.183	1.064
The geographical market size of our products has been expanding	115	3.635	.921
We are highly satisfied by the returns from assets invested (ROA)	115	3.374	1.013
We are highly satisfied by the returns from borrowed money (ROE)	115	3.504	.921
The number of our satisfied customers has been rising each year	115	3.913	.695
The size of our organization has been expanding for the last five years	114	3.895	.643
The quality of our products has improved considerably	114	3.851	.755
Efficiency of our internal work processes has improved tremendously	115	3.965	.576
Valid N (listwise)	113		

Note: Reliability α – Manufacturing SME Performance = 0.815: Ranked on a scale where
 1=Strongly Disagree, 2= Disagree, 3=Not Sure, 4=Agree, 5=Strongly Agree

429

430 The study results in table 1.0 revealed that the respondents agreed with most of the Likert-
 431 based psychometric performance constructs apart from the following two statements; we are
 432 highly satisfied by the returns from assets (ROA) invested (mean score, 3.37) and that the
 433 number of employees has been rising every year (mean score, 3.18). The driving force is
 434 that the performance of a firm is largely influenced by how well the firm's business strategy is
 435 matched to its organizational structure and behavioral norms of its employees.

436

437 According to Osion *et al.* (2005), business firms are structured along three different
 438 dimensions that affect strategy implementation namely formalization, centralization and
 439 specialization. The tool developed in this study to measure different structural dimensions
 440 consisted of 15 items out of which nine items measured formalization (item 1, 2, 3, 5, 7, 9,

441 12, 13 & 15), three items measured centralization (item 4, 6 & 8) and three items measured
 442 specialization (item 10, 11 & 14) as shown in table 2.0.

443

444 **Table 2.0: Descriptive statistics on the Structural Adaptations of the Manufacturing**
 445 **SME Firm**

446

Structure Constructs	N	Mean	Std. Dev
We revise and creates appropriate structures to match the changes in strategy requirements	115	4.165	.561
Our organization gives adequate information before a new strategy is implemented	115	3.357	1.01
We are governed by a clear system of with rules, regulations, policies and procedures	113	4.089	.600
We have a central command center that oversees strategy implementation	114	4.079	.597
Strategic work activities are well coordinated across sections, departments and divisions	114	4.061	.485
Our structure allows quick decisions and feedback	112	3.875	.773
We have a well-designed reporting authority and employees know to whom they report to	113	4.115	.395
We have a centralized decision structure that allows quick decisions to be made	115	3.913	.615
Structures are flexible enough to allow changes to be effected quickly and timely	115	3.696	.880

Our organization makes sure that employees have adequate knowledge, experience and skills	114	3.842 .837
Our organization encourages division of work and specialization	113	4.027 .604
There is adequate level of supervision in every section, department or divisions	113	4.009 .605
Our management encourages team work	115	3.504 1.07
Jobs in our organization are well structured with no overlaps, conflicts or ambiguity	115	3.887 .646
We encourages employees to refer to the past experience when implementing a new strategy	115	3.774 .784
Valid N (listwise)	103	

447 Note: Reliability α – Structural Adaptations = 0.705

448 The findings in this study, as shown in table 2.0, indicated that the structures adopted by
449 manufacturing SME firms in Thika Sub-County are highly specialized (composite mean
450 score, 3.68), formalized (composite mean score, 3.67) and centralized (composite mean
451 score, 3.54). Specialization of functions was highly ranked by the respondents as a very
452 important structural dimension followed by structure formalization and lastly centralization of
453 decision making. These findings implied that manufacturing SME firms need to encourage
454 specialization of functions and have proper formal procedures and regulations that govern
455 how work is done. Centralization of decisions was perceived last in driving better
456 performance in these firms.

457

458

459

460

Table 3.0: Bivariate Correlation Results between Structural adaptations and SME's Performance

		Y	X ₁
Performance (Y)	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	115	
Structure (X ₁)	Pearson Correlation	.442**	1
	Sig. (2-tailed)	.000	
	N	115	115

** . Correlation is significant at the 0.01 level (2-tailed).

Table 3.0 shows the bivariate linear correlations between structural adaptations and manufacturing SME performance. This study revealed that SME's structural adaptations (X₁) has a positive and significant relationship with the manufacturing SME performance ($r = .442^{**}$, $P < .001$). According to Sorooshian *et al.*, (2010), the structure of the firm has been identified by the literature as one of the key drivers under strategy implementation that positively influences organization performance. The results in this study implies that as the manufacturing SME firm re- adjusts its structure to match the new strategy requirements, a significant positive change in its performance is experienced.

The univariate regression analysis was performed to obtain the regression weights of the variables under investigation in this study. The regression model $Y = \beta_0 + \beta_1 X_1 + \epsilon$ was used to determine the effect of structural adaptations on the performance of the SME manufacturing firm. This model was found to be valid $F_{(1, 113)} = 27.480$, $P < .001$, meaning that the explanatory variable under investigation (X₁) is a good predictor of performance in the manufacturing SME firms in Thika Sub-County as shown in table 4.0.

488 **Table 4.0: Structural Adaptations and SME Performance: Model Validity**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.194	1	5.194	27.480	.000 ^b
Residual	21.359	113	.189		
Total	26.553	114			

a. Dependent Variable: Performance

b. Predictors: (Constant), Structural Adaptations (X_1)

489

490 The findings in this study in table 4.1 further revealed that the structural adaptations of the
 491 SME manufacturing firm (X_1) explains 19.6% of the total variations in the performance of the
 492 firm ($R^2 = .196$). The value of the constant in table indicate that structural adaptations in the
 493 manufacturing SME firm will always exist at a certain minimum ($\beta_0 = 3.753$, $P < .001$). This
 494 implies that the manufacturing SME firm will always have some form of a structure even
 495 when the structural adaptation variable (X_1) is not a significant predictor of performance.
 496 Study results also indicated that the structural adaptations variable (X_1) is positively and
 497 significantly related to the SME's performance ($\beta_1 = .677$, $P < .001$). This means that as the
 498 manufacturing SME firms adapts a new structure that reflects and supports the strategy
 499 being implemented, her overall performance will also improve significantly.

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508 **Table 4.1: Structural Adaptations and SME Performance: Regression Weights**

Model	Unstandardized Coefficients		Standardized Coefficients	R ²	t	Sig.
	B	Std. Error	Beta			
Constant	3.753	.041			92.570	.000
X ₁	.677	.129	.442	.196	5.242	.000

a. Dependent Variable: Performance

509

510 **Test of Hypothesis One**

511 **H₁.** *A significant positive relationship exists between structural adaptations and*
512 *performance of manufacturing SME firms in Kenya.*

513

514 This hypothesis intended to test whether structural adaptations during strategy
515 implementation positively influence the performance of the manufacturing SME firm's i.e.

516 H₀₁: $\beta_1 = 0$ versus H₁: $\beta_1 \neq 0$ was tested. The findings from the bivariate correlations in table
517 2.0 showed a significant and positive relationship between structural adaptations and SME
518 firms performance ($r = .442^{**}$, $P < .001$). On the other hand, the univariate regression results
519 in table 4.1 also showed a positive and significant relationship between structural
520 adaptations of the manufacturing SME firm and its performance ($\beta_1 = .677$, $P < .001$). This
521 led to the rejection of the null hypothesis (H₀₁) hence the conclusion that a positive and
522 significant relationship exists between the structural adaptations of the manufacturing SME
523 firm during strategy implementation and its performance in Thika Sub-County, Kenya.

524

525 The structural adaptations variable (X₁) was further broken down into specific structural
526 dimensions identified in the literature by Oslon *et al.*, (2005) as responsible for influencing
527 organization's performance. This led to the revision of the univariate model $Y = \beta_0 + \beta_1 X_1 + \varepsilon$

in order to include these specific structural dimensions leading to a new multiple linear regression model $Y = \beta_0 + \beta_1 X_{11} + \beta_2 X_{12} + \beta_3 X_{13} + \varepsilon$ where: Y= Manufacturing SME's performance, β_0 = Intercept, $\beta_1, \beta_2, \beta_3$ = slope coefficients representing the influence of the associated independent variable over the dependent variable, X_{11} = Formalization of the manufacturing SME structure, X_{12} = Centralization of decision making in the manufacturing SME structure, X_{13} = Specialization of functions in the manufacturing SME structure and ε = Error term. A bivariate correlation matrix was then obtained as shown in table 4.2.

Table 4.2: Bivariate Correlation Results among Specific Structural Dimensions of the SME manufacturing firm.

		Y	X_{11}	X_{12}	X_{13}
Performance (Y)	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	115			
FORMAL (X_{11})	Pearson Correlation	.456**	1		
	Sig. (2-tailed)	.000			
	N	115	115		
CENTR (X_{12})	Pearson Correlation	.159	.433**	1	
	Sig. (2-tailed)	.090	.000		
	N	115	115	115	
SPECIAL (X_{13})	Pearson Correlation	.350**	.611**	.107	1
	Sig. (2-tailed)	.000	.000	.253	
	N	115	115	115	115

** . Correlation is significant at the 0.01 level (2-tailed).

539 The results obtained from the bivariate linear correlation as shown in table 4.2 revealed that
 540 formalization of the manufacturing SME firm structure has a significant positive relationship
 541 with firm's performance ($r = .456^{**}$, $P < .001$), followed by specialization of the functions
 542 ($r = .350^{**}$, $P < .001$). The relationship between centralization of decision making and
 543 performance of the manufacturing SME firm was found to be insignificant ($r = .159$, $P = .09$).
 544 The three structural dimensions were further subjected to a multiple regression analysis to
 545 test their combined effects on the manufacturing SME's firm's performance. The model
 546 containing all the three structural dimensions was found to be valid, $F_{(3, 111)} = 10.255$, $P <$
 547 $.001$ meaning that these structural dimensions are good predictors of performance in
 548 manufacturing SME firms in Kenya (see table 4.3).

549

550 **Table 4.3: Specific Structural Dimensions and SME Performance: Model Validity**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.762	3	1.921	10.255	.000 ^b
Residual	20.791	111	.187		
Total	26.553	114			

a. Dependent Variable: Performance

b. Predictors: (Constant), SPECIAL (X_{11}), CENTR (X_{12}), FORMAL(X_{13})

The combined structural dimensions in table 4.4 were found to explain 21.7% of the total variations in the manufacturing SME firm's performance ($R^2 = .217$). The constant in the multiple regression model indicated that structural adaptations will be always exist at a certain significant minimum ($\beta_0 = 1.156$, $p = .03$). Formalization of the structure was found to be highly significant and positively related to the manufacturing SME's performance ($\beta_1 = .599$, $P = .001$). However, the relationships among centralization of decision making ($\beta_2 = -.028$, $P = .78$), specialization of functions ($\beta_3 = .100$, $P = .33$) and the manufacturing SME firm's performance (Y) were found to be statistically insignificant. (See table 4.4).

Table 4.4: The Combined Structural Dimensions: Regression Weights

Model	Unstandardized Coefficients		Standardized Coefficients	R^2	t	Sig.
	B	Std. Error	Beta	.217		
Constant	1.156	.511			2.264	.026
X ₁₁	.599	.179	.402		3.356	.001
X ₁₂	-.028	.099	-.027		-.279	.780
X ₁₃	.100	.101	.107		.988	.325

a. Dependent Variable: (Y) Performance

Test of Hypotheses based on Specific Structural Dimensions

The study findings in table 4.2 and table 4.4 were used to test the three alternatives hypotheses based on specific structural dimensions according to Oslon *et al.*, (2005).

H₂. *There is a significant positive relationship between formalization in the structure and performance of SME manufacturing firms in Kenya*

H₃. *There is a significant positive relationship between centralization in the structure and performance of SME manufacturing firms in Kenya*

H₄. *There is a significant positive relationship between work specialization and the*

The findings in tables 4.2 and 4.4 showed that formalization (X_{11}) has a positive and significant relationship with the manufacturing SME firm's performance ($r = .456^{**}$, $P < .001$), and ($\beta_1 = .599$, $P < .001$) respectively. This led to the rejection of the null hypothesis (H_{02}) and the conclusion that there is a significant positive relationship between formalization in the structure and performance of the manufacturing SME firms in Kenya. This finding implies that the SME leaders who maintain proper procedures, rules, policies and regulations in their firms help their organizations to perform better. The study results also revealed that specialization of functions (X_{13}) showed mixed results where the bivariate correlation in table 4.2 indicated that specialization on its own is positively and significantly related to SME firm's performance ($r = .350^{**}$, $P < .001$) while the multiple regression results in table 4.4 indicated that specialization has an insignificant relationship with the firm's performance ($\beta_3 = .100$, $P = .33$). The univariate regression in table 4.5 showed a positive relationship between work specialization and firm's performance ($\beta_1 = .327$, $P < .001$).

Table 4.5: Work Specialization and SME Performance: Regression Weights

Model	Unstandardized Coefficients		Standardized Coefficients	R ²	t	Sig.
	B	Std. Error	Beta			
Constant	2.472	.325		.123	7.606	.000
SPECIAL	.327	.082	.350		3.974	.000

a. Dependent Variable: (Y) Performance

The univariate regression results in table 4.5 showing the relationship between specialization of functions and SME performance ($\beta_1 = .327$, $P < .001$) and the bivariate correlation results

580 between specialization and SME performance ($r=.350^{**}$, $P<.001$) in table 4.2 showed a
581 positive and significant relationship between specialization and manufacturing SME's
582 performance. This led to the rejection of the null hypothesis (H_{04}) and the conclusion that
583 specialization of functions is positively and significantly related to the performance of the
584 manufacturing SME firm. The findings on the relationship between centralization of decision
585 making (X_{12}) and performance of the manufacturing SME in both the bivariate correlation ($r =$
586 $.159$, $P = .09$) in table 4.2 and multiple regression ($\beta_2 = -.028$, $P = .78$) in table 4.4 showed
587 insignificant results. Therefore, this study failed to reject the null hypothesis (H_{03}) and
588 concluded that the relationship existing between centralization of decision making and the
589 manufacturing SME performance is insignificant in Thika Sub-County in Kenya.

590

591 8. DISCUSSIONS OF FINDINGS

592 The results from the bivariate correlation ($r =.442^{**}$, $P < .001$), in table 3.0, univariate
593 regression analysis ($\beta_1 = .677$, $P < .001$) in table 4.1 revealed that the structural adaptations
594 of the small and medium manufacturing firms in Kenya is significant and positively related to
595 the SME firm's performance. This implies that the SME manufacturing firms need to examine
596 and re-adjust their structures in line with changes in the environment and new strategies
597 being implemented if superior performance is to be achieved. According to the Dynamic
598 Capability View of the firm (Teece,2007), an organizational structure is a dynamic capability
599 and firms that are able to adjust their structures in line with changes taking place in the
600 environment experiences superior performance. These findings concur with various
601 conclusions made by several researchers and scholars in strategic management who have
602 studied organizational structure. This study confirmed the work of Chandler (1962) who
603 contended that an organization structure must follow her strategy for better performance,
604 Burns and Stalker (1961) who observed that firms will adopt a structure in relation to the
605 environment they are operating in, Sine *et al.*, (2006) who observed that structures increases
606 performance of new ventures in the context of very dynamic sector, Oslon *et al.*, (2005) who

607 concluded that performance of an organization is largely influenced by how well an
608 organization's strategy is matched to its structure.

609

610 A further analysis on the specific structural dimensions practiced by manufacturing small and
611 medium firms revealed that formalization ($r = .456^{**}$, $P < .001$) and work specialization
612 ($r = .350^{**}$, $P < .001$) in table 4.2 are positively and significantly related with the performance of
613 manufacturing SME firms. On the other hand, centralization ($r = .159$, $P = .09$) has a positive
614 relationship which is insignificant. This is in line with the conclusions made by Oslon *et al.*,
615 (2005) who identified the three structural dimensions along which organizations are
616 structured which are formalization, centralization and specialization. The study further noted
617 that the benefits of centralization of decision making are only realized in stable non-complex
618 environments. This is not the case of the manufacturing SME's in Kenya since these firms
619 operate in a complex and highly competitive environment. Leitaao (2011) found out that the
620 economic performance of SMEs is positively affected by maintenance of efficient
621 organizational structure while non-economic performance of SMEs is also affected by
622 enthusiasm at work, incentives and maintenance of efficient organizational structure in a
623 dynamic environment. The findings of this study also confirm the works of Meijaard *et al.*,
624 (2005) in a study entitled "organizational structure of Dutch small firms". The study found out
625 small firms is structured along many dimensions with various degree of departmentation.
626 The study concluded that departmentation is strongly correlated with the size of the firm,
627 centralization perform well in relatively small structures and decentralized structures perform
628 well in firms engaged in business services and manufacturing, in combination with complex
629 coordination mechanisms hierarchically structured and departmentalized firms with
630 formalized tasks and specialized employees perform well in terms of growth especially in
631 manufacturing and financial services and finally, deviating from the findings of this study, the
632 centralized structure with strong specialized employees occur frequently in SMEs and
633 performs well in terms of growth.

634 9. CONCLUSION

635 This study found statistical evidence that a positive and significant relationship exist between
636 structural adaptations of the manufacturing SME firm during strategy implementation and its
637 performance. The findings are in agreement with McKinsey's / Higgins 8-S strategy
638 implementation framework where structure is one of the key important 7-S / 8-S components
639 respectively in strategy implementation. This study further strengthens the Dynamic
640 Capability View of the firm where organizational structure is seen as one of the key dynamic
641 capabilities of the firm required to maintain a superior performance (Teece 2014).

642 Oslon *et al.*, (2005) observed that the key important dimensions in an organizational
643 structure are formalization, specialization and centralization. This study found out that when
644 it comes to manufacturing SME firms in Thika Sub-County in Kenya, only formalization and
645 specialization of function variables are important. Centralization of decision making does not
646 improve the firm's performance significantly. This study, therefore, concluded that the
647 structure of a manufacturing SME firm is a key dynamic capability that leads to better
648 performance and a competitive edge among the rival firms in the industry.

649 10. RECOMMEDATIONS

650 According to the findings in this study, it is recommended that the CEOs and or owners of
651 the manufacturing SME firms should re- adjust their structures and always match them to
652 the requirements of the new strategy being implemented. They are also required to ensure
653 that there is adequate level of formalization in form of proper procedures, policies, rules and
654 regulations. There is the need to encourage specialization of functions where each
655 employee work in that area he is well trained. This will enable their organizations to produce
656 superior products and to compete effectively with the rival firms in the industry.

657

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659 **11. REFERENCES**

- 660 Awino, Z. B. (2013). Strategic planning and competitive advantage of ICT small and medium
661 enterprises in Kenya. *Business and Management Horizons J.* 1(1)
- 662 Barney, J. B. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of*
663 *Management*, Vol. 17, pp.99–120.
- 664 Boone, H. N., & Boone, A. D (2012). Analyzing Likert data. *Journal of Extension.* 50 (2).
665 Available online: http://www.joe.org/joe/2012april/pdf/JOE_v50_2tt2.pdf
- 666 Bowen, M., Morara, M., & Mureithi, S, (2009). Management challenges among small and
667 micro enterprises in Nairobi-Kenya. *KCA journal of management*, 2(1)
- 668 Burns, T., & Stalker, G. M. (1961). The management of innovation. London: Tavistock
669 Publications.
- 670 Carter, T. and Pucko, D. (2010). Factors of effective strategy implementation: Empirical
671 evidence from Slovenian business practice. *Journal for East European Management*
672 *Studies* 15(3), 207-236.
- 673 Chandler, A. D. (1962). *Strategy and structure*. Cambridge, MA: MIT Press.
- 674 Creswell, J. W. (2003). Research Design: Qualitative, Quantitative, and mixed method
675 approaches. 2nd edition, Sage publications Inc. USA.
- 676 Creswell, J. W., & Plano Clark, V. L. (2011). Designing and conducting mixed methods
677 research (2nd ed.). Thousand Oaks, CA: Sage Publications.
- 678 Cronbach, L. J. (1951) .Coefficient alpha and the internal structure of tests. *Psychometrika*
679 22 (3) 297-334.
- 680 Eisenhardt, K.M., & Martin, J. A. (2000). Dynamic capabilities: what are they? *Strategic*
681 *Management Journal*, 21, 1105-1121.
- 682 Gakure, R., & Amurle, G. (2013). Strategic planning practices in ICT SMEs in Kenya: What
683 other SMEs can learn. *Prime Journal of Social Sciences*; 2(6) : 336-349
- 684 Helfat, C. E, Finkelstein, S., Mitchell, W., Peteraf, M., Singh, H., Teece, D., & Winter, S. (2007).
685 Dynamic capabilities and organizational processes in Dynamic Capabilities:

686 *Understanding Strategic Change in Organizations*, pp. 30-45 Blackwell, London.

687 Jooste, C., & Fourie, B. (2009). The role of strategic leadership in effective strategy
688 implementation: Perceptions of South African strategic leaders; *South African*
689 *Business Review* 13(3)

690 Higgins, J. M. (2005), The Eight 'S's of Successful Strategy Execution. *Journal of*
691 *Change Management*. 5(1).

692 Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research
693 paradigm whose time has come. *Educational Researcher*, 33(7), 14–26,
694 <http://dx.doi.org/10.3102/0013189X033007014>.

695 Kippra (2013). Kenya Economic Report 2013, Nairobi, Kenya

696 Leitao, J., & Franco, M. (2011). Individual entrepreneurship capacity and small and medium
697 enterprise (SME) performance: A human and organizational capacity approach:
698 *African Journal of Business Management* 5 (15) 6350-6365. DOI:
699 10.2139/ssrn.1118257

700 Meijaard, J., Brand, M.J., & Mosselman, M. (2005). "Organizational structure and
701 performance in Dutch small firms", *Small Business Economics*, Vol. 25 No. 1, pp.
702 83-96. DOI 10.1007/s 11187-005-4259-7

703 Northhouse, P. G. (2013). Leadership theory and practice (6th ed.). Thousand Oaks, CA:
704 Sage Publications, Inc.

705 Okumus, F. (2003). "Framework to implement strategies in organizations", *Management*
706 *Decisions*, 41(9) 871-882

707 Okwachi, S., Gakure, R., Ragui, M., (2013). Business Models-What is their effect on the
708 implementation of strategic plans by SME's: *Prime Journal of Business*
709 *Administration and Management*. 3 (5) 1025-1032

710 Oslon, E.M., Slater, S.F., & Hult, T.M. (2005). The importance of structure and process to
711 strategy implementation, *Business Horizon Journal* 48, 47-54

712 Pearce II, J.A. & Robinson, R.B. (1991). Formulation, Implementation and Control of

713 Competitive Strategy, Homewood, Boston, MA: Irwin.

714 Peters, Tom J. & Waterman, Robert H. (1982), In Search of Excellence - Lessons from
715 America's Best-Run Companies, HarperCollins Publishers, London.

716 Robbins, S. P. (2006). Organization theory (Mahdi Alvani and Danaeefard, Trans.). Tehran:
717 SAFFAR publication, 14th ed.

718 Rumelt, R. P. (1984). "Towards a strategic theory of the firm". In R. Lamb (ed.) Competitive
719 Strategic Management. Prentice-Hall, Englewood Cliffs, NJ, pp. 556-570.

720 Sage, S. (2015). 5 questions to evaluate your implementation strategy. Available online:
721 <http://onstrategyhq.com/resources/strategic-implementation/>

722 Scotland, J. (2012). Exploring the philosophical underpinnings of research: Relating
723 ontology and epistemology to the methodology and methods of the scientific,
724 interpretive and critical research paradigms. *English Language Teaching*, 5 (9) 9-
725 16. doi:10.5539/elt.v5n9p9, URL: <http://dx.doi.org/10.5539/elt.v5n9p9>

726 Sine, W.D., Mitsuhashi, H., & Kirsch, D. A. (2006). Revisiting Burns and Stalker: Formal
727 structure and new venture performance in emerging economies. *Academy of
728 management journal* 49 (1) 121-132

729 Sorooshian, S., Norzima, Z., Yusuf, I. & Rosnah, Y. (2010). Effects analysis on strategy
730 implementation drivers. *World Applied Sciences Journal*. 11(10) 1255-1261

731 Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic
732 management. *Strategic Management Journal*, 18 (7): 537–533.

733 Teece, D. J. (2007). Explicating dynamic capabilities: The nature and micro foundations of
734 (sustainable) enterprise performance. *Strategic Management Journal*, 28(13):
735 1319–1350.

736 Teece, D.J. (2014). A dynamic capabilities-based entrepreneurial theory of multinational
737 enterprise. *Journal of International Business Studies* 45, 8-37

738 Wernerfelt, B. (1984). A Resource-Based View of the firm, *Strategic Management Journal*,
739 5, pp. 171-180.