

**ENTREPRENEURIAL ORIENTATION, ENVIRONMENTAL FACTORS,  
FIRM STRATEGIC CAPABILITIES AND GROWTH OF MICRO SMALL  
AND MEDIUM ENTERPRISES IN THE MANUFACTURING SECTOR IN  
NAIROBI COUNTY, KENYA**

**BY  
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PHILOSOPHY IN BUSINESS MANAGEMENT  
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## DECLARATION

### Declaration by Candidate

I declare that this Thesis is my original work and has not been submitted to any other College or University for academic credit.

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## **DEDICATION**

I would like to take this opportunity to thank my parents, late Zakayo Laboso and Alice Laboso, who always supported me in my decisions and helped me achieve my goals in life. My upbringing has been instrumental in all walks of my life and helped me to accomplish the things that I have achieved in life today. I respectfully dedicate this Thesis to them.

I would like to convey my heartfelt thanks to my wife Pauline and my children, Alfred, Mercy and MaryAnn for all their love and support, which made it possible for me to complete this Thesis on time despite hectic travel schedule every week. There have been several occasions and weekends during which I wasn't able to provide time to my family and friends because of my engagement and perseverance to accomplish this feat. Without their patience and tolerance, I wouldn't have been able to write and complete this work

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## ABSTRACT

Whereas entrepreneurial orientation (EO) has been found to underpin growth of Micro Small and Medium Enterprises (MSMEs) in a large number of previous growth studies, a cross-section of extant empirical research on the association between EO and growth are inconclusive. This implies that the relationship between EO and growth is not linear, pointing to other causal factors either internal or external to the business, prompting this study. This was coupled with an underlying growth challenge among MSMEs in Kenya, highlighted by the higher likelihood for MSMEs to either stagnate or fail than to grow. The main objective of the study was thus to determine the moderated mediation role of environmental factors and firm strategic capabilities on the relationship between EO and growth of MSMEs. The specific objectives included: to determine the effect of EO on growth and firm strategic capabilities among MSMEs; to examine the effect of firm strategic capabilities on the growth of MSMEs and its mediating role between EO and MSME growth; to determine the influence of environmental factors on the relationship between EO and growth, between EO and firm strategic capabilities and between firm strategic capabilities and MSME growth; and to investigate the moderating effect of environmental factors on the indirect relationship between EO and growth of MSMEs via firm strategic capabilities. The study is anchored on the contingency fit view theory and resource-based view. This study is based on the Positivism philosophy and employed explanatory survey design, of a cross-sectional nature. A stratified sample of 384 MSMEs was drawn from a target population of 103,214 registered MSMEs, with a focus on the manufacturing sector in Nairobi County. Data was collected by use of structured questionnaires and analysed by both descriptive and inferential statistics which included multiple regression modelling. Results indicate that EO has a significant effect on MSME growth ( $\beta=.139$ ,  $p<.05$ ) and on firm strategic capabilities ( $\beta=.276$ ,  $p<.05$ ). The study also found that firm strategic capabilities have a significant effect on MSME growth ( $\beta=.124$ ,  $p<.05$ ). Environmental factors were further found to significantly moderate the association between EO and MSME growth as the interaction between EO and environmental factors was found to be significant ( $\beta =.0092$ ,  $p<.05$ ; LLCI=.0004; ULCI=.0180). The study did not however find a significant moderated mediation role of environmental factors on the indirect relationship between EO and growth of MSMEs, through firm strategic capabilities as the second interaction between environmental factors and firm strategic capabilities was not significant ( $\beta=-.0021$ ,  $P>.05$ ; LLCI=-.0143; ULCI=.0102). It is concluded that among manufacturing sector MSMEs in Kenya, growth is directly, positively and significantly influenced by owner/managers' EO and firm strategic capabilities. The relationship between EO and MSME is also non-linear, moderated by environmental factors. The study therefore validates the contingency fit view, affirming that the association between EO and growth of MSMEs is moderated by environmental factors. The study recommends that government formulates supportive policies that encourage EO and strategic capacity building among manufacturing MSMEs through trainings, access to credit, common equipment facilities, business incubation centres, technology transfer and creating local markets. It is also recommended that despite uncertainty and unfavourable environmental factors, MSME owners/managers ought to practice EO to build strategic capabilities and realize growth. Having adopted a cross-section design, it was not possible to track MSME growth in terms of possible transitions through the growth stages. It is thus suggested that future studies adopt a longitudinal approach.

## TABLE OF CONTENTS

DECLARATION .....	ii
DEDICATION .....	iii
ACKNOWLEDGEMENT .....	iv
ABSTRACT.....	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES .....	xi
LIST OF FIGURES .....	xi
ABBREVIATIONS .....	xiv
OPERATIONAL DEFINITION OF TERMS .....	xv
<b>CHAPTER ONE .....</b>	<b>1</b>
<b>INTRODUCTION.....</b>	<b>1</b>
1.0 Overview .....	1
1.1 Background of the Study .....	1
1.1.1 Entrepreneurial Orientation.....	3
1.1.2 Firm Strategic Capabilities.....	5
1.1.3 Environmental Factors .....	6
1.1.4 Micro, Small and Medium Enterprise Growth.....	8
1.1.5 Micro, Small and Medium Enterprises (MSMEs) in the Manufacturing Sector in Kenya .....	10
1.2 Statement of the Problem.....	13
1.3 Research Objectives.....	15
1.3.1 General Objective.....	15
1.3.2 Specific Objectives.....	15
1.4 Study Hypotheses.....	16
1.5 Significance of the Study .....	17
1.6 Scope of the Study .....	18
<b>CHAPTER TWO .....</b>	<b>20</b>
<b>LITERATURE REVIEW .....</b>	<b>20</b>
2.0 Introduction.....	20
2.1 Theoretical Framework.....	20
2.1.1 Contingency Fit View .....	20
2.1.2 Dynamic Capabilities Theories .....	22

2.1.3 Economic Theory of Entrepreneurship .....	24
2.1.4 Life Cycle Theory .....	25
2.2 Empirical Review of Literature .....	26
2.2.1 Entrepreneurial Orientation and MSME Growth .....	26
2.2.2 Firm Strategic Capabilities and MSME Growth .....	31
2.2.3 Environmental Factors and MSME Growth .....	39
2.3 Summary of Research Gaps .....	46
2.4 Conceptual Framework .....	47
<b>CHAPTER THREE .....</b>	<b>49</b>
<b>RESEARCH METHODOLOGY .....</b>	<b>49</b>
3.0 Introduction .....	49
3.1 Research Philosophy .....	49
3.2 Research Design .....	52
3.3 Study Area .....	53
3.4 Target Population .....	53
3.5 Sampling Design and Procedure .....	54
3.6 Data Collection Instruments .....	57
3.7 Data Collection Procedure .....	58
3.8 Data Measurement .....	58
3.8.1 Dependent Variable (MSME Growth) .....	58
3.8.2 Independent Variable (Entrepreneurial Orientation) .....	59
3.8.3 Moderating Variable (Environmental Factors) .....	59
3.8.4 Mediating Variable (Firm Strategic Capabilities) .....	59
3.8.5 Control Variable (Age and Sub-Sector) .....	59
3.9 Reliability and Validity Tests .....	60
3.9.1 Reliability Tests .....	60
3.9.2 Validity Tests .....	61
3.10 Pilot Test Study .....	62
3.11 Data Processing and Analysis .....	62
3.11.1 Model Specification .....	63
3.11.2 Diagnostic Tests .....	70
3.12 Ethical Considerations .....	72
<b>CHAPTER FOUR .....</b>	<b>74</b>

<b>DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION OF FINDINGS .....</b>	<b>74</b>
4.1 Introduction.....	74
4.2 Response Rate.....	74
4.3 Preliminary Diagnostic Tests .....	75
4.3.1 Reliability Test .....	75
4.3.2 Instrument Validity .....	76
4.3.3 Analysis of Missing Values .....	87
4.3.4 Test for Outliers .....	88
4.3.5 Test for Normality.....	88
4.3.6 Multicollinearity Diagnostics.....	89
4.3.7 Homogeneity of Variances.....	90
4.4 Demographic Information.....	90
4.5 Descriptive Statistics for MSME Growth .....	93
4.6 Status of Entrepreneurial Orientation .....	94
4.6.1 Status of Innovativeness.....	94
4.6.2 Status of Risk Propensity .....	96
4.6.3 Status of Proactiveness.....	98
4.7 Extent of Firm Strategic Capabilities.....	100
4.7.1 Status of Firm Resources.....	100
4.7.2 Status of Market Orientation.....	102
4.8 Status of Environmental Factors .....	104
4.8.1 Description of Policy Environment.....	105
4.8.2 Descriptive Results for Business Support Services.....	106
4.8.3 Descriptive Statistics for Competition .....	108
4.9 Hypotheses Test Results .....	111
4.9.1 Correlation Results.....	111
4.9.2 Effect of Entrepreneurial Orientation on MSME Growth.....	112
4.9.3 Effect of Entrepreneurial Orientation on Firm Strategic Capabilities.....	113
4.9.4 Effect of Firm Strategic Capabilities on MSME Growth.....	115
4.9.5 Entrepreneurial Orientation, Firm Strategic Capabilities and MSME Growth .....	117
4.9.6 Entrepreneurial Orientation, Environmental Factors and Firm Strategic Capabilities .....	119



4.9.7 Entrepreneurial Orientation, Environmental Factors and MSME Growth ...	121
4.9.8 Firm Strategic Capabilities, Environmental Factors and MSME Growth ....	123
4.9.9 Entrepreneurial Orientation, Firm Strategic Capabilities, MSME growth and Environmental Factors .....	125
4.10 Discussion of Findings.....	132
4.10.1 Entrepreneurial Orientation and MSME Growth.....	132
4.10.2 Entrepreneurial Orientation and Firm Strategic Capabilities.....	135
4.10.3 Firm Strategic Capabilities and MSME Growth.....	138
4.10.4 Entrepreneurial Orientation, Firm Strategic Capabilities and MSME Growth .....	139
4.10.5 Entrepreneurial Orientation, Environmental Factors and Firm Strategic Capabilities .....	140
4.10.6 Entrepreneurial Orientation, Environmental Factors and MSME Growth .	142
4.10.7 Entrepreneurial Orientation, Firm Strategic Capabilities and MSME Growth .....	145
4.10.8 Entrepreneurial Orientation, Firm Strategic Capabilities, Environmental Factors and MSME Growth.....	146
<b>CHAPTER FIVE .....</b>	<b>150</b>
<b>SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS</b>	<b>150</b>
5.1 Introduction.....	150
5.2 Summary of Findings.....	150
5.3 Conclusion of the Study.....	155
5.4 Implications of the Study .....	162
5.4.1 Implications to Theory .....	162
5.4.2 Implications to Policy.....	163
5.4.3 Implications to Entrepreneurship Practice .....	165
5.4.4 Implications to Research .....	166
5.5 Limitations of the Study.....	166
5.6 Suggestions for Further Studies .....	167
REFERENCES .....	170
APPENDICES .....	192
Appendix I: Research Questionnaire.....	192
Appendix II: Missing Value Analysis.....	197
Appendix III: Mahalonobis Distance Test Results .....	200

Appendix IV: Scree Plots .....	201
Appendix V: Regression Result for the effect of Entrepreneurial Orientation on the Growth of manufacturing sector MSMEs in Kenya. ....	205
Appendix VI: Regression Result for the effect of entrepreneurial orientation on Firm Strategic Capabilities among manufacturing sector MSMEs in Kenya	206
Appendix VII: Regression Result for the effect of Firm Strategic Capabilities on the Growth of manufacturing sector MSMEs in Kenya .....	207
Appendix VIII: Regression Result for the mediating effect of Firm Strategic Capabilities on the relationship between Entrepreneurial Orientation and Growth of manufacturing sector MSMEs in Kenya .....	208
Appendix IX: Regression Result for the moderating effect of Environmental Factors on the relationship between Entrepreneurial Orientation and Firm Strategic Capabilities among manufacturing sector MSMEs in Kenya.....	209
Appendix X: Regression Result for the moderating effect of Environmental Factors on the relationship between Entrepreneurial Orientation and Growth of manufacturing sector MSMEs in Kenya.....	210
Appendix XI: Regression Result for the moderating effect of Environmental Factors on the relationship between Firm Strategic Capabilities and Growth of manufacturing sector MSMEs in Kenya.....	211
Appendix XII: Regression Result for the moderating effect of Environmental Factors on the indirect relationship between Entrepreneurial Orientation and Growth of manufacturing sector MSMEs in Kenya via Firm Strategic Capabilities .....	212
Appendix XIII: Pilot Study Findings .....	214
Appendix XIV: Research Permit.....	227
Appendix XV: Site Map.....	228
Appendix XVI: List of Manufacturing MSMEs in Nairobi County.....	228
Appendix XVII: Turnitin Report.....	237

## LIST OF TABLES

Table 3.1 Target Population.....	54
Table 3.2 Sample Size Distribution .....	55
Table 3.3 Manufacturing Zones (Strata).....	56
Table 3.4 Proportionate Sampling by Sub-sector and Zone .....	56
Table 3.5: Reliability of the Instrument.....	61
Table 3.6: Model Specification Summary .....	68
Table 4.1: Response Rate.....	75
Table 4.2: Reliability Coefficients .....	76
Table 4.3: KMO and Bartlett's Test for Entrepreneurial Orientation .....	76
Table 4.4: Total Variance Explained .....	78
Table 4.5: Rotated Component Matrix <sup>a</sup> .....	80
Table 4.6: KMO and Bartlett's Test for Firm Strategic Capabilities .....	81
Table 4.7: Total Variance Explained for Firm Strategic Capabilities .....	81
Table 4.8: Rotated Component Matrix <sup>a</sup> .....	82
Table 4.9: KMO and Bartlett's Test for Environmental Factors.....	83
Table 4.10: Total Variance Explained .....	84
Table 4.11: Rotated Component Matrix <sup>a</sup> .....	85
Table 4.12: KMO and Bartlett's Test for MSME Growth .....	86
Table 4.13: Total Variance Explained .....	86
Table 4.14: Rotated Component Matrix <sup>a</sup> .....	87
Table 4.15: Test for Normality .....	89
Table 4.16 Multicollinearity Diagnostics .....	89
Table 4.17: Tests for Test of Homogeneity of Variances .....	90
Table 4.18: Demographic Information .....	91
Table 4.19: Descriptive Statistics for MSME Growth.....	93
Table 4.20: Descriptive Statistics for Innovativeness.....	95
Table 4.21: Descriptive Statistics for Risk Propensity .....	97
Table 4.22: Descriptive Statistics for Proactiveness.....	99
Table 4.23 Descriptive Statistics for Firm Resources.....	101
Table 4.24 Descriptive Statistics for Market Orientation .....	103
Table 4.25 Descriptive Statistics for Policy Environment.....	105
Table 4.26 Descriptive Statistics for Business Support Services .....	107

Table 4.27 Descriptive Statistics for Competition.....	109
Table 4.28: Correlation Analysis for Composite Variables.....	111
Table 4.29: Test Results for $H_{01}$ .....	112
Table 4.30: Test Results for $H_{02}$ .....	114
Table 4.31: Test Results for $H_{03}$ .....	116
Table 4.32: Test Results for $H_{04}$ .....	118
Table 4.33: Test Results for Model 8.....	120
Table 4.34: Test Results for Model 9.....	122
Table 4.35: Test Results for Model 10.....	124
Table 4.36: Test Results for Model 11.....	126
Table 4.37: Summary of Hypotheses and Test Results .....	149

**LIST OF FIGURES**

Figure 2.1 Conceptual Framework .....	48
Figure 3.1: Hayes Model 4.....	64
Figure 3.2: Hayes Model 59.....	69
Figure 4.1 Conditional Effect of Entrepreneurial Orientation on Firm Strategic Capabilities .....	128
Figure 4.2 Conditional Effect of Entrepreneurial Orientation on MSME growth.....	130
Figure 4.3 Conditional Effect of Firm Strategic Capabilities on MSME growth.....	131

**ABBREVIATIONS**

<b>EO</b>	Entrepreneurial Orientation
<b>EU</b>	European Union
<b>GDP</b>	Gross Domestic Product
<b>ICT</b>	Information and Communication Technology
<b>IT</b>	Information Technology
<b>KAM</b>	Kenya Association of Manufacturers
<b>KIPPRA</b>	Kenya Institute of Public Policy Research and Analysis
<b>KNBS</b>	Kenya National Bureau of Statistics
<b>MSEA</b>	Micro and Small Enterprise Authority
<b>MSMEs</b>	Micro, Small and Medium Enterprises
<b>MTP</b>	Medium Term Plan
<b>OECD</b>	Organization for Economic Cooperation and Development
<b>SDGs</b>	Sustainable Development Goals
<b>SPSS</b>	Statistical Package for the Social Sciences
<b>UNDP</b>	United Nations Development Programme
<b>UNIDO</b>	United Nations Industrial Development Organization
<b>USA</b>	United States of America

## OPERATIONAL DEFINITION OF TERMS

**Entrepreneurship:** The dynamic process in which manufacturing sector MSME owners/managers exploit and identify opportunities and mobilizes resources to create or meet new demands in ways that are significantly different and new in the market, assuming new venture's rewards and risks.

**Entrepreneurial Orientation:** The tendency of a manufacturing sector MSME owner/manager to be willing to take risks, be proactive to opportunities in the marketplace and innovate.

**Risk-taking:** The inclination of a manufacturing sector MSME owner/manager to take actions that are bold, including investing huge portions of resources to investments with uncertain outcomes or into unknown new markets.

**Innovativeness** The readiness by a manufacturing sector MSME owner/manager to attempt, experiment and/or create new ways in the production process that are dissimilar from the extant ones.

**Pro-activeness:** A progressive, opportunity-seeking viewpoint by a manufacturing sector MSME owner/manager that entails the premiering of novel services or products before rivals and taking actions in expectation of demand in the future to shape, change and create the environment.

**Environmental Factors:** Influences external of a manufacturing sector MSME that may have implications on its growth, particularly regulatory and government support factors as well as competition.

**Firm Strategic Capabilities:** Adequacy and suitability of the competences and resources of an MSME as well as accumulated knowledge and skills leveraged by a manufacturing sector MSME to survive, prosper and grow.

**Growth of MSMEs:** The progression of a manufacturing sector MSME over the years in terms of sales, value of assets, market share, profits, production capacity and number of employees.

**Micro, Small and Medium Enterprises:** Manufacturing sector MSMEs with between 1 and 99 employees.



## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.0 Overview**

This chapter discusses the background to the study, followed by an in-depth conceptualization of the study constructs that is entrepreneurial orientation, environmental factors, firm strategic capabilities and MSME growth. The chapter further discusses the research problem, objectives, research hypotheses as well as the significance and scope of the study.

#### **1.1 Background of the Study**

The growth of MSMEs, largely generalized in literature as small businesses (Dziallas & Blind, 2019; Achtenhagen *et al.*, 2020), is a key contributor to economic development and growth mainly through taxation, contribution to Gross Domestic Product (GDP), creation of employment and innovation (PriceWaterhouseCoopers (PWC), 2020; World Bank, 2020; Central Bank of Kenya (CBK), (2021). MSME are also considered critical in the realization of the Sustainable Development Goals (SDGs), particularly goal 8 (decent work and environment); and goal 12 (sustainable production and consumption) (World Bank, 2020). In contrast to large corporations where growth is largely attributed to strategy and firm-level entrepreneurship, growth among MSMEs is largely tied to the owner/manager's EO owing to their decision-making autonomy and direct involvement in day-to-day business operations (Okoli *et al.*, 2021). This implies that to realize growth, MSME owners/managers ought to proactively seek out market opportunities, innovate and invest resources despite uncertainties in the external business environment, in order to build strategic capabilities necessary for growth (Neneh & van Zyl, 2017; Liberman- Yaconi *et al.*, 2019; Oni *et al.*, 2019; Okoli *et al.*, 2021).

The foregoing implies that for desirable MSME growth, there ought to be an alignment among owner/managers' EO, firm strategic capabilities and the external business environment factors. This is consistent with the contingency fit view theory, in which Lumpkin and Dess (1996) opine that for desirable business outcomes, EO ought to be aligned with various contextual factors which can be categorized as external (environmental) and internal (firm-level) aspects. Also, in tandem with the dynamic capability theory (DCT) (Teece *et al.*, 1997), MSME owners/managers need to mobilize key firm resources to build capabilities needed to keep up with the dynamic business environment to achieve growth. Further, small business growth ideally necessitates an enabling business environment in line with the economic theory of entrepreneurship (Papanek, 1962). Ultimately, as opined by Churchill and Lewis's (1983) life cycle theory, depending on whether or not all factors align in support of growth, small businesses either grow out of the MSME bracket during their development or remain MSMEs or collapse. Against this backdrop, this study was anchored on the contingency fit view and supported by DCT, the economic theory of entrepreneurship and the life cycle theory.

The growth of MSMEs has been directly associated with the growth and development of many developed and developing countries globally, including the United States of America (USA), China, India, South Korea, Malaysia, Taiwan and Thailand among a host of other OECD countries whose MSME contribution to employment ranges from 60-70% and over 50% of Gross Domestic Product (GDP) (OECD, 2017). Close to 90% of industrial establishments in South East Asian countries are under MSMEs (United Nations Industrial Development Organization (UNIDO), 2018). In the European Union (EU), MSMEs constitute 99.8% of all businesses as well as employ 76 million people representing 67.4% of total employment (EU, 2017).

In emerging economies, MSMEs contribute over 45% of employment in general and 33% of GDP (OECD, 2017). Accounting for up to 92% of businesses in the economy, the MSME sector is the leading business form in Ghana, contributing 49% of the country's GDP (UNIDO, 2018). According to PWC (2020), MSMEs in Nigeria account for 96% of businesses, and contribute 48% of national GDP and 84% of employment. In Kenya, MSMEs employ over 30% of the working population, contribute 33% to the country's GDP and constitute 98% of all businesses in Kenya (KNBS, 2016; CBK, 2021). In this realization, the government has initiated a number of policies aimed at enhancing MSME growth. Despite the growing policy support, growth of MSMEs continues to be a challenge in Kenya, with a majority either stagnating or failing within 3 years of establishment pointing to an underlying growth challenge (KNBS, 2016; CBK, 2021). As such, MSMEs formed the appropriate context for this study owing to their importance in economic development in both developed and developing contexts coupled with their growth challenge in Kenya.

### **1.1.1 Entrepreneurial Orientation**

Entrepreneurial orientation is defined by Miller (1983) as a deliberate orientation combining specific entrepreneurial features of practices, styles and decision-making methods. According to Covin and Slevin (1989), EO assesses the degree to which businesses' top leaders are disposed to take business-associated risks, to favor innovation and change with a view to aggressively compete with other firms and to attain a competitive advantage. Lumpkin and Dess (2001) defined the concept as the decision-making processes, practices, and activities which result in the crucial act of entrepreneurship, involving actions and intentions.

In its novel characterization by Miller (1983), EO comprised of three dimensions, including risk propensity, innovativeness and proactiveness. According to Miller (1983), businesses which take fairly risky ventures, engage in market and product innovation and are normally first to adopt innovations that are 'proactive', beating rivals to the punch can be regarded as entrepreneurially oriented. The conceptualization of EO was later advanced by Lumpkin and Dess (1996) to include competitive aggression and autonomy. There have however been some concerns over the distinctiveness between competitive aggressiveness and proactiveness (Covin *et al.*, 2006; Tang *et al.*, 2018). Consequently, a number of studies (Neneh & Zyl, 2017; Etim *et al.*, 2017; Okoli *et al.*, 2021) have conceptualized EO as per Miller (1983) while others (Yamoah, 2016; Waithaka, 2016; Oni *et al.* 2019) have adopted all the five dimensions as per Lumpkin and Dess (1996). In view of the foregoing concerns over distinctiveness in the conceptualization of EO by Lumpkin and Dess (2001), the present study conceptualized EO as per Miller (1983), consisting of three dimensions including risk propensity, proactiveness and innovativeness.

Further, the dimensionality of the concept of EO has, among scholars, been highly debated. While some scholars (Covin *et al.*, 2006; Lumpkin & Dess, 2001) have opined that EO is best perceived as a multidimensional construct owing to individual EO dimensions occurring in dissimilar combinations, with each dimension influencing business outcomes differently, others (Covin & Slevin, 1991) have opined that the EO sub-constructs are best perceived as a concept that is unidimensional as only the combination of the three constructs put forth by Miller (1983) constitute entrepreneurial orientation. Miller (1983) argues that a firm has EO when it is concurrently risk taking, innovative and proactive. Against this backdrop, the present study conceptualized EO as unidimensional.

### **1.1.2 Firm Strategic Capabilities**

Porter (1985) defines firm strategic capability as including the competences and resources that a firm leverage to fair competitively in its business context. Barney (1991) opines that, firm strategic capabilities comprise an organization's capacity and ability expressed in terms of its material and physical resources (buildings, land, machines), human resources (experience, number, quality and skills), financial resources (credit and money), intellectual resources (patents, designs and copyrights, among others) and information resources (databases, pool of knowledge). On their part, Teece *et al.* (1997) describe capabilities as the firm's capacity to reconfigure, build and integrate external and internal competences to exploit market environments that are rapidly changing.

Firm strategic capabilities concern the organization's market position, resources and assets, projecting how well it will be capable of leveraging strategies in the future and occurs when a firm delivers on the collective abilities and competencies of its individuals (Mikalef & Pateli, 2020). Firm strategic capabilities have also been described as an enterprise's ability to operate its daily businesses in the market place, as well as strategically seek, adapt and grow (Wang & Ahmed, 2017). According to Kelchner (2020), firm strategic capabilities encompass a firm's weaknesses and strengths with regard to its resources and ability to respond to market needs; and determine a firm's ability to translate its firm resources and market orientation into tangible results.

Growth oriented enterprises need to have the ability to exploit highly advanced technologies and equipment and ensure that staffs receive the requisite training for proficiency in the use of the technologies and equipment (Johnson *et al.*, 2017).

Growth oriented enterprises ought to further have a thorough understanding of their customers' and market needs with a view to innovate and adapt, whether by introducing new services and products or by advancing their business models and processes (Martinez-Roman *et al.*, 2020).

Against this backdrop, the present study presupposed that firm strategic capability is measured by firm resources and market orientation. Firm strategic capability is also conceptualized in this study as a mediating variable, in that MSME growth is only realized when EO enables owner/manager to translate their firm resources and market orientation into tangible results. Accordingly different dimensions of firm strategic capabilities have been previously found to exhibit a significant mediating role between pertinent firm-specific factors and organizational outcomes including SME performance and market development (Alkasim *et al.*, 2018); and firm performance and EO (Messersmith & Wales, 2019; Li, Huang & Tsai., 2020). None of the reviewed studies however focused on the association between EO and MSME growth.

### **1.1.3 Environmental Factors**

Fruhling and Digman (2020) view the environment external to the business as the entirety of aspects outside a firm which are considered by a firm when taking decisions. The environment external to the firm includes the relevant physical and social factors exterior of an organization's typical boundaries that affect managerial decision-taking. Noreen and Junaid (2019) view the firm's exterior environment as the element beyond a firm's control which influences its choice of action and direction, internal processes and organizational structure. According to the Organization for Economic Cooperation and Development (OECD) (2017), elements

that constitute the exterior environment may be categorized into three subcategories: competition, policy environment and government support services.

The primary regulations, laws and policies of a country can influence an MSMEs' growth and survival (Foxcroft *et al.*, 2021). For business start-ups, governments ought to keep at minimum the regulatory hurdles by reviewing where appropriate and reducing regulatory requirements where appropriate (licenses, procedures and administrative fees); introducing fast-track mechanisms and transparent information and convenience shops to package processes; and improving procedures that are ICT-based for registration of businesses (OECD, 2017). According to the World Bank (2020), governments that have initiated business incubation have claimed success rate of over 85%. Incubators for startups have been deemed as a solution for the shortcomings which new and small firms confront by offering several support services for businesses. They are valuable in nurturing industrial renewal, entrepreneurship, technological innovation, and commercialization. For this reason, many economies have been increasingly engaged in founding business incubators as a form of business support for MSMEs (Sims *et al.*, 2017).

The World Bank (2020) reports that fostering entrepreneurship necessitates an environment which empowers the entrepreneur to manage, operate, create, and if need be, close a business, in an environment that guarantee compliance with laws governing registration procedures, licensing, disclosure, and protection of intellectual and physical property. Accordingly, OECD (2017) provides that for MSMEs' development, business support services by the government are imperative. Further, UNDP (2018) reports that for individual enterprises, competition presents a survival risk. The study also found that whereas competition presents high survival risk, it

pushes MSMEs towards enhanced productivity, which leads to their development and growth.

Against this backdrop, the present study presupposed that, environmental factors, as indicated by policy, competition and business support services has an indirect effect on the linkage between EO and enterprise growth among MSMEs. Environmental factors are conceptualized in this study as a moderating variable, in that environmental factors determine the extent to which MSME owner/managers leverage their EO to navigate the external business environment characterized by intense competition and an adverse policy and regulatory environment. Accordingly, different dimensions of environmental factors have been studied previously and found to exhibit a significant moderating role between pertinent firm-specific factors and organizational outcomes, including organizational performance and marketing strategy (Wael & Raedto, 2018); performance of large tech-firms and product innovation strategy (Gima & Li, 2019); and firm performance and EO (Lumpkin & Dess, 2001). None of the reviewed studies however focused on the association between EO and MSME growth.

#### **1.1.4 Micro, Small and Medium Enterprise Growth**

According to Terziovski and Samson (2019), business growth entails on the one hand the enterprise's profitability growth, and the other hand, improvement of the enterprise's ability and quality. According to Churchill and Lewis (1983) any firm whose operations produce significant positive earnings or cash flows, which as compared to the overall economy increases at significantly faster rates, is growing. Business growth is also considered a process of positive transformations and in-depth



development (Dziallas & Blind, 2019) that is generally measured through quality (Pearce & Robinson, 2017) and/or quantity (Achtenhagen *et al.*, 2020) improvement.

Accordingly, small business growth has been empirically measured in literature, in both qualitative and quantitative terms. Qualitatively, among the widely used measures of firm growth include innovation (Soininen *et al.*, 2020), value creation (Price *et al.*, 2019; Peng, 2021), research and development (Noreen & Junaid, 2019) and corporate social responsibility (Kaczmarek *et al.*, 2020). According to Davidsson, Achtenhagen, Naldi (2014), small business growth in a myriad of studies is consistently associated with financial performance at both business/firm and industry levels of analysis. As such, quantitatively, similar constructs used in measuring small business performance (Davidsson *et al.*, 2014; Oni *et al.*, 2019; Hamzani & Achmad, 2020; Okoli *et al.*, 2021) have also been used to measure small business growth. These include sales growth, annual turnover, market share, value of assets, average return on net assets, production capacity, gross profit growth and number of employees (Delmar & Wiklund, 2008; Pearce & Robinson, 2017; Achtenhagen *et al.*, 2020). This is supported by authorities in business growth research including Delmar (1997), Wiklund (1998) and Weinzimmer *et al.* (1998) who suggest that small business growth be measured using sales, profits, employment, market share, physical output and assets.

The quantitative measures of small business growth have been particularly preferred over the qualitative measures owing to their ease of measurement and as better predictors and indicators of business sustainability (Pearce & Robinson, 2017; Delmar & Wiklund, 2008; Achtenhagen *et al.*, 2020). According to Delmar and Wiklund (2008), if a single construct has to be employed as a small business's growth's

measure, then the preferred choice would be financial accomplishments. The present study, against this backdrop, adopted the quantitative measures of MSME growth, including sales growth, number of employers, market share, value of assets, production capacity and gross profit growth.

Whereas business growth typically occurs over a considerable amount of time and therefore ideally measured longitudinally, small business growth has also been assessed cross-sectionally, from an earlier point in time up to the time of the investigation (Davidsson *et al.*, 2014). Accordingly, a large number of previous growth studies have measured small business growth from a cross-sectional approach. These include Mwangi and Ngugi (2017) in their study on how MSME growth in Kerugoya, Kenya is influenced by entrepreneurial orientation; Adomako (2016) in a doctoral dissertation on growth among small business in Ghana and entrepreneurial passion and Kimuru (2018) in a doctoral dissertation on the antecedents of growth among youth owned MSMEs in Kenya. Others include Neneh and van Zyl (2017) in their study on how SME growth in South Africa is influenced by entrepreneurial orientation; and Diabate *et al.* (2019) in their assessment of SME growth through entrepreneurial orientation and entrepreneurs' ability with reference to SMEs in Côte d'Ivoire. The present study therefore measured MSME growth cross-sectionally.

#### **1.1.5 Micro, Small and Medium Enterprises (MSMEs) in the Manufacturing Sector in Kenya**

In Kenya, the MSME Act of 2012 defines MSMEs using two criteria: these include the number of staff and firm's annual turnover (GoK, 2012). Based on turnover, micro enterprises constitute businesses with annual turnover not exceeding Kshs500,000 while small and medium enterprises include businesses with between Kshs500,000 to

Kshs5 Million and between Kshs5 Million to Kshs800 Million respectively. Based on the number of staff, micro enterprises constitute businesses with less than 10 staffs while small and medium enterprises include businesses with more than 10 but less than 50 employees and more than 50 but less than 100 respectively. Based on investment in plant and machinery, the total for micro enterprises it does not exceed Ksh.10 million, while for medium, investment in plant and machinery should be between Ksh.10 million and Ksh.50 million and for small enterprises, total assets and investment in plant and machinery or the registered capital of the enterprise does not exceed Ksh.250 million.

Globally, the manufacturing sector is key pillar of economic development in both developed and developing economies. Model countries in this regard include China, whose manufacturing sector contributed 30.8% to GDP in the year 2020, making it the largest *contributor* in the country by far. Similarly, the manufacturing sector is among the best performing globally, contributing 25.95% to GDP in 2020 (World Bank, 2021). In sub-Saharan Africa, the share of manufacturing sector's contribution to GDP has been on a decline from an average of 14% in the year 2000, to an average of 9.6% from 2010 to date. Among the best performing countries in terms of the manufacturing sector's contribution to GDP include Ethiopia and Rwanda. In Rwanda, the manufacturing sector's contribution to GDP stood at 42% in 2020. In Ethiopia, manufacturing sector's contribution to GDP 22.3% in 2020 (World Bank, 2021).

Over the last seven (7) years as of the year 2020, the manufacturing sector in Kenya contributed to an average of 10% in GDP (2008 to 2014), and the trend has been declining, in the year 2019 contributing only 8.4% to GDP, which falls short of the

target set in the Medium-Term Plan (MTP) II (2012 - 2017) for the sector to grow by 8.7% (KAM, 2020). This indicates that over time, the share of GDP for manufacturing has been declining (Were, 2016; KAM, 2020). Further, in 2019, formal wage employment in public and private manufacturing decline by 0.38% and 0.95% respectively where nearly 303,300 were employed (KAM, 2020). Manufacturing sector's contribution to export further declined from Kshs172.1Billion in 2015 to Kshs155.1Billion in 2019 (KAM, 2020). The foregoing facts suggesting a growth problem in both industry and business-level manufacturing, making the sector an area of interest in this study.

In Kenya, MSMEs are a critical part of manufacturing, and play a critical role in bringing about innovation and creating employment in the sector, despite most of them lacking requisite resource capacity to perform to their potential in the competitive sector (KAM, 2020). This is corroborated by the CBK (2021) who reports that the MSME sector employs nearly 85% of the country's workforce. This means that for the manufacturing sector to grow, a lot more emphasis must be put on MSMEs, a majority of which (65%) are located within Nairobi City County (KAM, 2020). In acknowledgement of the foregoing, the government of Kenya has initiated a number of policies aimed at enhancing growth and development of MSMEs. The government policy initiatives date back to the 1992 Sessional Paper No. 2 Jua Kali and Small Enterprises Development in Kenya. Other policy documents include Sessional Paper No 2 of 2005; the Private Sector Development Strategy (2006-2010), the MSMEs act of 2012; part XII of the Procurement and Disposal Act of 2015; and part V of the Local Content Bill (2016). There is particularly a renewed focus in manufacturing industry in the dispensation of the Big 4 Agenda by the Office of the

President (2017), which sets out to grow the sector's contribution to GDP to 15% by the year 2022.

However, despite the growing policy support, growth of MSMEs continues to be a challenge in Kenya, with a majority either stagnating or failing within 3 years of establishment (KNBS, 2016). According to Sessional Paper No. 2 of 2005, sixty percent of small businesses in Kenya cease operations within the first three years of their establishment (Government of Kenya, 2015). KNBS (2016) further found that 46% of the MSMEs surveyed failed within their first year.

## **1.2 Statement of the Problem**

A growing MSME sector has been widely considered indicative of a thriving economy (OECD, 2017; EU, 2017; UNDP, 2018; UNIDO, 2018; World Bank, 2020), owing to its contribution to economic development. Small business growth has been reported in a myriad of empirical studies as being directly underpinned by EO (Neneh & van Zyl, 2017; Dananjaya & Kuswanto, 2020). Numerous studies on the association between EO and small business growth have however reported mixed findings based on the unidimensional measure of EO. While some (Zampetakis *et al.*, 2017; Neneh & van Zyl, 2017; Mwangi & Ngugi, 2017) have established a positive influence of EO on small business growth; others (Slater & Narver, 2010; Walter *et al.*, 2016; Moreno & Casillas, 2018) failed to find any significant linear linkage between small business growth and EO. The mixed findings imply that the association between the concepts of EO and growth is non-linear, pointing to other causal factors either internal or external to the business. This is consistent with the anchoring theory, the contingency fit view, in which Lumpkin and Dess (1996) opine that for the most desirable business outcomes, EO ought to be aligned with various contextual factors

which can be categorized as external (environmental factors) and internal (firm strategic capabilities). The foregoing presents the conceptual gap warranting the present study.

In Kenya, growth in the manufacturing sector has been on a decline for eight (8) successive years leading to the year 2021, suggesting a premature deindustrialization (Kenya Nation Bureau of Statistics (KNBS), 2021). This is highlighted by a dwindling contribution to GDP, from an average of 10% between 2008 and 2014, to 9.2% in 2016, 8.4% in 2017, 7.7% in 2018, 7.9% in 2019 and 7.6% in 2020 (KAM 2018; KAM, 2020; KNBS, 2021). These statistics indicate an underlying practical growth problem in the manufacturing sector, 65% of which is made up of MSMEs concentrated in Nairobi City County (KAM, 2020). This presents the practice gap warranting the present study.

It remains unexplored in the Kenyan body of knowledge, how the observed dismal growth among manufacturing sector MSMEs in the country is directly linked to MSME owner/manager EO and indirectly to various indirect causal factors both internal and external to the business, as well as how the indirect causal factors interact to influence growth in line with the contingency fit view (Lumpkin & Dess, 1996). A majority of studies in the Kenyan body of knowledge have focused on MSME performance at the expense of MSME growth. This presents the empirical gap warranting the present study.

For instance, Mwangi and Ngugi (2017) explored how growth among micro and small enterprises in Kerugoya, Kenya is influenced by EO but did not focus on the manufacturing sector. The study was also linear in conceptualization, overlooking any causal factors either internal and external to the business. Ng'aru (2019) assessed the

linkage between mid-sized enterprises' growth in Kenya and EO, moderated by industry experience. The study was however limited to mid-sized enterprises and did not focus on the manufacturing sector. Further, none of the published studies has tested the moderating role of environmental factors on the indirect association between owner/manager EO and growth through firm strategic capabilities. This study therefore sought to answer the research question; what is the moderated mediation role of environmental factors on the indirect association between owner/manager EO and growth of manufacturing sector MSMEs through firm strategic capabilities in Nairobi County, Kenya?

### **1.3 Research Objectives**

#### **1.3.1 General Objective**

The main objective of the study was to determine the moderated mediation role of environmental factors and firm strategic capabilities on the association between entrepreneurial orientation and growth of MSMEs in Manufacturing sector, in Nairobi County, Kenya.

#### **1.3.2 Specific Objectives**

The specific objectives of the study were to:

- i. Determine the effect of entrepreneurial orientation on the growth of manufacturing sector MSMEs in Kenya.
- ii. Establish the effect of entrepreneurial orientation on firm strategic capabilities among manufacturing sector MSMEs.
- iii. Examine the effect of firm strategic capabilities on growth of manufacturing sector MSMEs.

- iv. Determine the influence of firm strategic capabilities on the relationship between entrepreneurial orientation and growth of manufacturing sector MSMEs in Kenya.
- v. Examine the influence of environmental factors on the relationship between entrepreneurial orientation and firm strategic capabilities among manufacturing sector MSMEs in Kenya.
- vi. Ascertain the influence of environmental factors on the relationship between entrepreneurial orientation and growth of manufacturing sector MSMEs in Kenya.
- vii. Establish the influence of environmental factors on the relationship between firm strategic capabilities and growth of manufacturing sector MSMEs in Kenya.
- viii. Investigate the influence of environmental factors on the indirect relationship between entrepreneurial orientation and growth of manufacturing sector MSMEs in Kenya via firm strategic capabilities.

#### **1.4 Study Hypotheses**

**H<sub>01</sub>:** Entrepreneurial orientation does not have a significant effect on MSME growth.

**H<sub>02</sub>:** Entrepreneurial orientation does not have a significant effect on firm strategic capabilities.

**H<sub>03</sub>:** Firm strategic capabilities do not have a significant effect on MSME growth.

**H<sub>04</sub>:** Firm strategic capabilities do not mediate the relationship between entrepreneurial orientation and MSME growth.



**H<sub>05</sub>:** Environmental factors do not moderate the relationship between entrepreneurial orientation and firm strategic capabilities.

**H<sub>06</sub>:** Environmental factors do not significantly moderate the relationship between entrepreneurial orientation and MSME growth.

**H<sub>07</sub>:** Environmental factors do not significantly moderate the relationship between firm strategic capabilities and MSME growth.

**H<sub>08</sub>:** Environmental factors do not moderate the indirect relationship between entrepreneurial orientation and MSME growth via firm strategic capabilities.

### **1.5 Significance of the Study**

There is no empirical evidence of studies done in the line of the moderating effect of environmental factors and mediating influence of firm strategic capabilities on the linkage between growth and EO among manufacturing sector MSMEs in developing countries and especially in Kenya. The study findings thus bridge this gap and contribute to the extant literature by bringing to light how entrepreneurially orientated MSMEs owners/managers can leverage both environmental factors and firm strategic capabilities to realize growth in their enterprises. This will provide a reference material for future scholars in related areas.

The study is also of importance to the following stakeholders pertinent to MSME growth in the country, and how the same is directly influenced by entrepreneurial orientation, and indirectly by environmental factors and firm strategic capabilities. The findings that EO and firm strategic capabilities significantly influence MSME growth are beneficial to manufacturing MSME owners/managers owing to their need to strategize and staying ahead of the competition in a growingly competitive and

volatile environment. The research findings particularly inform the entrepreneur and business manager on how they can best leverage entrepreneurial orientation to improve and mobilize their firm strategic capabilities and navigate the adverse environmental factors to realize growth.

The study findings that environmental factors significantly moderate the linkage between EO and MSME growth is of benefit to policy makers as it equips them with empirical evidence on the indirect effect of environmental factors on the growth of manufacturing sector MSMEs in the country, including the policies and regulations in place. Policy makers are therefore informed on how to formulate policies and regulations that will provide an enabling environment for the growth of manufacturing sector MSMEs in the country.

### **1.6 Scope of the Study**

Conceptually, the study restricted itself to the empirical analysis of MSMEs growth as directly determined by entrepreneurial orientation and the relationship moderated by environmental factors and mediated by firm strategic capabilities, with a focus on the manufacturing sector in Nairobi County, Kenya. MSME growth was studied using the cross-sectional approach, in line with Davidsson *et al.* (2014) who observe that whereas business growth typically occurs over a considerable amount of time and therefore ideally measured longitudinally, small business growth has also been assessed cross-sectionally, from an earlier point in time up to the time of the investigation.

Methodologically, the study performed both descriptive and inferential analyses. Operations under inferential analysis included simple linear regression, moderation, mediation and moderated mediation. The study was based on primary data which was

obtained from a survey of owners or managers of the selected MSMEs which were all located across 9 manufacturing zones in Nairobi city county. The exclusion criteria involved a focus on MSMEs that have been in operation for over 3 years, as an indicator of continuity, since from the preceding sections it is apparent that most MSMEs collapse within 3 years of their establishment. To this end, the study sought a list of MSMEs that had been registered at least three years prior to the study. The study was conducted between the months of September and November 2019.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter involves a critical review of empirical works to the effect of MSMEs growth as directly determined by entrepreneurial orientation and the relationship moderated by environmental factors and mediated by firm strategic capabilities. The conceptual definitions of the variables underpinning the study are presented both as general concepts and their dimensions, followed by their empirical review. A theoretical review is also presented followed by a conceptual framework. The chapter culminates in a summary.

#### **2.1 Theoretical Framework**

Previous empirical studies on MSME growth are underpinned by a mix of theories. Pertinent among these include the contingency fit view (Lumpkin & Dess, 1996), the dynamic capability theory (Teece *et al.*, 1997), the economic theory of entrepreneurship (Papanek, 1962) and the life cycle theory (Churchill & Lewis, 1983).

##### **2.1.1 Contingency Fit View**

The essential idea posited by the contingency fit view theory as proposed by Lumpkin and Dess (1996) is that for desirable business outcomes, EO ought to be associated with various contextual attributes which can be classified into organizational (internal) and environmental (external) factors. This makes the contingency fit view most ideal in anchoring the conceptual framework in the present study, as it is contextualized to imply that in order for manufacturing sector MSMEs to realize desirable growth, there has to be an alignment among the owners/managers' EO, firm strategic capabilities as internal factors and environmental factors as factors external

to the business. This owes to the contextualization of environmental factors as external and firm strategic capabilities as internal factors.

Wiklund and Shepherd (2005) add that organizational aspects may include for instance, resources, strategy, structure, and processes while environmental aspects may include the features of environment, industry, and markets. Contingency fit may be perceived as a simple notion: an alignment between context and entrepreneurship results in improved organizational performance. The Contingency fit view is of relevance to this study as it underpins the entire conceptual model. The study adopts the theory to articulate the effect of EO on MSME growth as mediated by firm strategic capabilities as an internal factor and moderated by environmental factors as external.

The foregoing theories underpinned the conceptualization of the variables of this study as well as the modelled association between and among them. Whereas the Marginal man theory informs how owners/managers possess and exhibit their Entrepreneurial Orientation as the independent variable of this study, both RBV and DCT informs the understanding of the association between owner/manager's Entrepreneurial Orientation, Firm Strategic Capabilities, and MSME growth. However, these theories do not determine the effects among them per se, as this is derived from the analysis model chosen for the study as supported by authoritative research methodologies. Economic Theory of Entrepreneurship on the other hand, underpinned the external factors that either impede or enhance the degree to which owners'/managers' entrepreneurial orientation resulted in MSME growth. The Life Cycle theory was instrumental in understanding how MSMEs grow from their point of creation to micro, then small, and medium enterprises. Lastly, the contingency fit

view is useful in showing the internal and external factors that MSME growth is contingent on.

### **2.1.2 Dynamic Capabilities Theories**

Dynamic capability theory (DCT) was advanced by Teece *et al.* (1997) as a complement to or an expansion of Resource-Based View (RBV) in an effort to elucidate competitive advantage in a highly dynamic environment. Dynamic capability denotes a firm's capability to responsively and efficiently develop its resources and change current operations. Dynamic capabilities are considered by Littunen and Tohmo (2019) as strategic and organizational routines by which organizations realize new resource formations as markets die, collide, emerge, split and evolve. Accordingly, Mitchell and Harris (2015) argue that DCT relates to the development of strategies for the top executives of successful companies to adjust to essential irregular change, while upholding least ability standards to ensure competitive existence.

Later developments on DCT present the crux of the concept of resource-based as an assumption that it is the inherent firm's competencies and resources not in the environment but in the firm which predicts its success. This handling of resources shows the attributes of the firm (Keskin, 2016). Barney (1991) intimates that the competitive advantage determining resources have to satisfy the VRIN criteria, in that they ought to be non-substitutable, inimitable, valuable and rare. It is therefore presumed that a firm's strategic resources ought to be imperative and denote a firm's strategic value; rare with regard to occurrence in potential and current rivals; hard to be duplicated by the rivals, have restricted suppleness; guarantee competitive advantage that is permanent; irreplaceable, meaning that they are non-substitutable;

and expensive to imitated. These resource attributes indirectly affect a firm's performance and growth enabling it to maintain competitive advantage (Jiao *et al.*, 2017).

The Dynamic Capability Theory has however been criticized of lacking theoretical foundation clarity as well as on its basic tenets (Callaghan & Venter, 2015). The dynamic capabilities theory has further been criticized for it accrediting capability differences to management choices which are vary across firms. If such capability differences have nothing to do with management discretion, and do not vary across firms, then the strategic question of which capabilities ought to be sought for competitive advantage remains unanswered (Brown *et al.*, 2011). The current study will test and build on this theory's propositions for future references in the area of strategic management.

Notwithstanding the above criticism DCT is relevant to this study in that they provide an adequate basis upon which this study conceptualizes both entrepreneurial orientation and firm strategic capabilities as resources internal to MSMEs which may be leveraged to enhance growth. This is in line with Johnson *et al.* (2017) who stress strategic capabilities, that these scholars define as firm capabilities and resources requisite for its sustaining and development in the marketplace. They further argue that competitive advantage ought to be guaranteed by a firm's strategic capabilities which can be sustainable over a given time period. The strategic capabilities entail both competitive advantage-determining capabilities and threshold capacities conceptualized to mean competencies and resources essential to meet customer requirements at minimum and that are comprised of exclusive core competencies and resources, both hard to copy for rivals (Johnson *et al.* 2017).

The Dynamic Capability Theory is a supporting theory in the present study as it espouses how entrepreneurially oriented MSME owners/managers in the manufacturing sector in the country leverage their enterprises' strategic capabilities amidst dynamic business, policy and political environments to realize growth. As such, the theories underpin the mediating influence of strategic firm capabilities on the linkage between growth of manufacturing sector MSMEs and EO in Kenya.

### **2.1.3 Economic Theory of Entrepreneurship**

The Economic Theory of Entrepreneurship was proposed by Papanek (1962) who argue that in any country, incentives of economic nature are the main forces for entrepreneurial activities. Papanek (1962) asserts that economic growth and entrepreneurship will occur in those situations where the business environment favor certain economic circumstances. In tandem with Cyert and March (1975) and Baumol (1993) argue that in a country, there are numerous economic factors that demote or promote entrepreneurship. These factors are: monetary and fiscal policies, economic policies that are efficient, bank credit availability, increased consumer demand, supply for lower interest rate loans, goods marketing services, communication facilities, transportation facilities, availability of productive resources, state of equipment and infrastructure. Later studies (Lowe & Marriot, 2016; Monteiro *et al.*, 2017) adopting the Economic Theory of Entrepreneurship recognize that government failures can be critically important but that they need to be, and often can be, explained; with appropriate institutional design, they can even be limited as well, that even without government failures, market failures are pervasive, especially in developing countries.

The theory is criticized by Casson (1991) who contests that the entrepreneur deliberates that the entirety of the data available to them with respect to some decision



is exclusive, and therefore in control of the external environment influence. He argues that the perception of a situation by an entrepreneur has a weighty effect on resource allocation. Casson (1991) further intimates that it is significant for the success of an entrepreneur that they minimize the cost of transaction experienced in creating any given trade volume. He adds that the entrepreneur anticipates profit from the change in insight by taking a stand in relation to other people.

The Economic Theory of Entrepreneurship is a supporting theory in the study as it explains the constructs of the environmental factor as a moderator in the study. The theory was particularly employed to assess how government's regulatory and supportive policies interact with entrepreneurial orientation to affect MSME growth.

#### **2.1.4 Life Cycle Theory**

Coined by Churchill and Lewis (1983), the life cycle theory opines that business has to start up and grow amidst crises and challenges, and finally mature and decline in a linear model. Churchill and Lewis (1983) point out, that only a part of the general firm life-cycle model is relevant to SMEs; in fact, firms either grow out of the SME size bracket during their development or stop growing and remain SMEs or collapse. They further argue that both external and internal environmental factors influence the growth pattern of SMEs. Recent empirical research on life cycle stages have been based on large organisations or high technology firms (Jiang *et al.*, 2016; Fonger, 2017) while very few have been conducted on SMEs. However, there abound theoretical studies on SME life cycles.

The life-cycle theory has however been criticized as lacking empirical validation, which was addressed by Hughes and Morgan (2017) who point out that this empirical authentication has mostly been carried out employing cross-sectional data and small

samples, in place of longitudinal data. Whereas the study did not study MSME growth longitudinally through the growth stages, the life cycle theory supports the study as it underpins the understanding of growth of manufacturing MSMEs in Kenya from their inception to their present growth levels. The theory is also relevant to the present study by the virtue of the theory postulating that both external and internal environmental factors influence the growth pattern of MSMEs. The study thus sought to establish how both external (environmental factors) and internal factors (entrepreneurial orientation and firm strategic capabilities) have influenced the growth pattern among the MSMEs.

## **2.2 Empirical Review of Literature**

This section reviews extant empirical literature, pertinent to the interaction between the main variables explored in the present study, including environmental factors, firm strategic capabilities, entrepreneurial orientation and the growth of MSMEs in the manufacturing sector. The review explores studies conducted from international, regional and the Kenyan context.

### **2.2.1 Entrepreneurial Orientation and MSME Growth**

Okoli *et al.* (2021) explored how performance among SMEs in Southeast Nigeria is influenced by EO. Employing survey tools, the research made use of primary as well as secondary data, drawing the population from 5 Southeast Nigerian states. A census of 386 SMEs was used in the research. To test the hypotheses, the study computed a simple regression analysis. It was revealed in the research that a significant and positive linkage exists between risk taking, innovativeness and pro-activeness on SME performance in Southeast Nigeria. It was inferred in the study that firms that are entrepreneurially oriented lead the industry by orienting their services towards satisfying their customers and with innovation, which earns them a better leverage.

Oni *et al.* (2019) studied how SME performance in North West Province OF South Africa is linked to EO (autonomy, innovativeness, proactiveness and risk taking). The study, that was quantitative in nature used questionnaires to collect data. The study population comprised owners/managers of small businesses drawn from North West Province of South Africa. The study utilized simple random sampling approach to acquire study respondents. Both descriptive and inferential statistics were utilized in the study. Findings indicate that business performance was only influenced by three attributes (proactiveness, risk taking and innovativeness), while autonomy was not significantly associated with business performance. Positive linkages were additionally reported between small business performance and the overall EO.

Kusumwardhani (2019) explored the role of EO in firm performance with reference to Indonesian SMEs in future industry in Central Java, Indonesia. The study adopted the five dimensions of EO definition as the decision-making styles, practices and methods that managers use to carry business act entrepreneurially and measured the concept by the five dimensions including innovativeness, proactiveness, risk propensity, competitive aggression and autonomy and employed a mix of quantitative and qualitative approaches. Under quantitative approaches, the study employs confirmatory and exploratory factor analyses and structural equation modeling while for the qualitative data, content analysis is used. Findings indicate that out of the five dimensions on EO studied, including innovativeness, proactiveness, risk propensity, autonomy and competitive aggression, only proactiveness has a significant and positive association with firm performance while the rest were also positive but not significantly related with firm performance.

In Vietnam, Vu (2017) studied the associations between firm performance and EO with reference to the function of involvement of family amongst small firms. The study adopted the EO definition by Lumpkin & Dess (1996) as the decision-making processes, practices, and activities which lead to new entry, and conceptualized the concept using one dimension that is risk-taking. Employing a dataset at firm level of 170 small firms in Vietnam, the descriptive study confirms the direct influence of EO and the moderating influence of family culture, based on findings from two regression models of hierarchical moderated nature for owner-manager's goal accomplishment and the firm outcomes. It is also found family involvement's power dimension diminishes entrepreneurial risk-taking's negative effect as socioeconomic wealth preservation is pursued by the family. Results from a structural equation modelling further confirmed that entrepreneurial intentions are positively associated with employees' intent to leave the organizations but this influence is mediated fully by attitudes that are personal to an entrepreneur.

In South Africa, Neneh and Zyl (2017) assessed in an explanatory study, how firm growth amongst SMEs is influenced by EO. The study adopted three EO dimensions including risk-taking, proactiveness and innovativeness and defined the concept as the decisions, practices, and strategic processes used by decision makers a firm's organizational purpose is formulated and sustain its vision, with a view to create a competitive advantage that is sustainable. Structural equation modelling, regression and correlation analyses were conducted to study the associations between firm growth and EO's multi-dimensional and one-dimensional constructs. Utilizing data from 285 SMEs, the findings obtained show that whereas SME growth (sales growth and employment) was positively and significantly associated with EO, a moderate EO level was demonstrated by most SMEs. Also, following the proportions of EO, the

findings found the rise innovation that s proactive (a combination of innovativeness and proactiveness) which revealed a positive and significant link with sales growth. A significant effect was only found between asset growth and employment and risk-taking.

In Nigeria, Etim *et al.* (2017) assessed in a descriptive survey EO's effect as a strategy for survival among SMEs. The study defined EO as the willingness in organizations to rejuvenate and innovate its business position; to risk taking through venturing out its competitive position; and to seek out new marketplace opportunities more proactively compared to its rivals. Randomly sampling 150 SMEs from Lagos Nigeria's business industrial collection, a multivariate regression analysis was utilized to assess network models of survival for SMEs and EO variables. It was uncovered in the results that the EO variable as assessed by pro-activeness, risk taking and innovation have a positive and significant effect on the survival of SMEs. Both correlation and regression findings showed that EO variables influence a positively the survival of SMEs. Innovation was found to have the most significant influence with 0.915 correlation coefficient; while most significance was established in proactiveness.

Mwangi and Ngugi (2017) studied how SME growth in Kerugoya, Kenya is influenced by EO. EO was defined in the strategic orientation of a firm, one that captures the particular entrepreneurial aspects of practices, methods and decision-making styles and conceptualized it as entailing three dimensions named proactiveness, risk-taking and innovativeness. The research adopted a descriptive design targeting 1420 MSEs and employed a multivariate regression model to assess the influence of EO on SME growth. It was found in the study that EO dimensions of

(pro-activeness, risk taking and innovativeness and competence of entrepreneurial managers have a significant and positive influence on SME growth.

In Ghana, Yamoah (2016) adopted the EO definition by Lumpkin & Dess (1996) as the processes, practices, and activities of decision-making which led to new entry in his study on how growth of food processing SMEs is influenced by EO. The study conceptualized EO using all the five dimensions including proactiveness, competitive aggressiveness, innovativeness, autonomy and risk-taking. A survey research design was employed in the study using a closed-ended questionnaire while one tail test and multiple regression were utilized in data to analysis. It was found in the research that whereas food processing SMEs display some features of EO, the operating business environment normally presents a growth impediment. Results also showed that when the environment is unfavorable, food processing SMEs normally display high competitive aggressiveness and proactiveness levels, while autonomy, risk-taking and innovativeness appear to be non-existent.

Waithaka (2016) examined in a descriptive study the association between EO and SME performance with reference to Kenya's agro-based manufacturing sector. The study defined EO as the strategy making processes that offers the basis for entrepreneurial actions and decisions and conceptualized using five dimensions namely, competitive aggressiveness, risk taking, autonomy, proactiveness and innovativeness. The study used correlation coefficients was used to determine the magnitude and direction of linkage between the five entrepreneurial orientation dimensions and the SME performance. A stepwise regression technique was used to examine the nature of the relationships. Findings revealed strong positive correlations

between each of EO aspect and SME performance. Based on the reviewed literature, the study hypothesized that MSME growth is not significantly influenced by on.

In Kenya, Osoro (2012) examined how business performance is influenced by EO among SMEs in Nairobi's information technology sector. The study defined EO as the process of seizing and pursuing opportunity along distinct scopes and adopted the three dimensions of risk-taking propensity, pro-activeness and innovativeness. Utilizing data from 160 randomly sampled SMEs adopting the descriptive research design, factor analysis, multiple regression and correlation analysis were carried in hypotheses testing. It was revealed in the study findings that EO was potentially shaped by contextual factors and that entrepreneurial performance was associated with particular dimensions of EO and contextual factors.

### **2.2.2 Firm Strategic Capabilities and MSME Growth**

Iqbal *et al.* (2021) investigated how innovation performance is influenced by EO, organizational commitment and transformational leadership. The research acquired information from 1095 workers at various cadres in SMEs. Using structural equation modeling, results revealed a positive and significant express association among EO, innovation performance and organizational commitment. In addition, the linkage between innovation performance and EO was positively mediated by organizational commitment. It was further determined that transformational leadership significantly moderates the linkage between organizational commitment and EO. It was thus deduced that to enhance the innovation performance, SME leadership ought to practice EO (risk-taking, proactiveness, and innovativeness) and transformation leadership.

Li *et al.* (2020) examined the association among firm performance, EO and knowledge creation process sampling 165 entrepreneurs. LISREL analysis was used in the study to test the indirect and direct association between firm performance and EO. The study operationalized knowledge creation process to reflect the extents of internalization, combination, externalization and socialization and was utilized as the mediating variable for elucidating the association between firm performance and EO. The findings show that the significance of the express association between firm performance and EO is lessened when the indirect influence of EO through the process of knowledge creation is included in a model of total effect. EO is consequently positively associated with firm performance, and a significant mediating role is played by knowledge creation in this association.

Al-Dhaafri *et al.* (2020) studied how total quality management mediates the association between organizational performance and EO. The study aimed to critique the studies associated with firm performance and elucidate the potential impacts of EO, ERP and TQM. Grounded on a detailed evaluation of the existing studies and the theoretical basis, the proposed a research model. Organizational excellence was found significantly mediate the influence of EO, ERP and TQM on firm performance. The suggested framework was underpinned on the fact that only differentiated, innovative and excellent products and firms can stimulate the customers and record superior performance in business environment that is turbulent.

Leitner (2019) studied the strategy formation concept and its mediating influence on firm performance in association with product innovation and market development. Sampling 91 Austrian SMEs over a ten-year period, the study operationalized strategy formation as corresponding actions of strategic intentions in two studies conducted in



2003 and 1995. No direct association was found between performance and strategy formation, while growth orientation was recorded among emergent strategists. Considering industry dynamics, results revealed that in stable industries, contrary to anticipations, firms that employed an emergent strategy in market development realized higher sales growth.

Messersmith and Wales (2019) examined the influence of philosophy variables including partnership philosophy and high-performance work systems (HPWS) and managerial practice on the association between sales growth and EO. The findings from a 119 young high-technology firms sample show that firm growth and EO have a non-significant association. However, companies combining partnership philosophy or HPWS with EO achieved significantly higher growth levels. The results specifically show that EO promise as a way of improving young firms' growth trajectories relies on the degree to which these firms embrace and find certain philosophies and human resource practices.

In Malaysia, Ramayah *et al.* (2019) studied the mediating effect of market orientation in the association between SMEs performance and EO. Sampling 500 SMEs in the beverages and food manufacturing industry, the study employed the data analysis approach of partial least squares. Results indicated that MO is significantly associated with EO, and SME performance is significantly associated with MO. MO was also found to mediate the association between SMEs' performance and EO.

In Ghana, Kraa (2019) assessed how SME performance is influenced by market orientation and innovation's mediating role. Sampling 500 SMEs in Kumasi metropolis, the Structural Equation Model was used to analyze data. Performance was positively influenced by variables of market orientation including competitor

orientation, customer orientation, dissemination of information generation of information, and implemented response impacted. Also in Ghana, Obeng *et al.* (2018) examined small firm growth and strategic entrepreneurship. Strategic entrepreneurship is measured by networks and innovation. Sampling 441 entrepreneurs, ordinary least square models were adopted in the descriptive study to test the hypotheses. Results show that several positive associations exist between the entrepreneur's characteristics, firm growth, firm strategy and firm resources.

In Nigeria, Alkasim *et al.* (2018) studied how competitive strategy mediates the association among performance, product development and market development among manufacturing-based SMEs. Utilizing cross-sectional survey design, the study employed both random and cluster sampling technique selecting 453 participants and questionnaires were distributed proportionately and collected via method of personal administration. Hypotheses were tested using PLS-SEM and results indicated that there is empirical mediation of competitive strategy the association between the performance and the strategic growth of SMEs in manufacturing sector.

Byoungcho and Hyeon (2018) examined the mediating role of technological and marketing capabilities on the effect of domestic market competition and international EO on export performance of SMEs. A proposed model based on contingency theory and RBV was assessed utilizing PLS with a sample of 470 SMEs in Korea. Domestic market competition and international EO both lead to SMEs developing their marketing and technological capabilities, resulting in improved performance in global markets. The study discovered full mediating influence of marketing and technological capabilities between export performance and international entrepreneurial orientation.

Lekmat *et al.* (2018) investigated the predictors of firm performance among SMEs in Thailand, assessing the association among firm performance, EO and market orientation taking a 405 sample of SMEs operating in the retail and service industries. The study specifically tested the mediation influence of marketing capabilities on the associations between firm performance, EO, and market orientation. Findings show that market orientation has both indirect and direct effects on firm performance, while EO only has an indirect significant influence on firm performance via the mediating role of marketing capabilities. Market orientation is predicted by EO, while marketing performance is predicted by marketing capabilities via financial outcomes.

Chen *et al.* (2018) studied the mediating functions of learning orientation and differentiation strategy in the association between firm performance and EO, sampling the supply network components of a manufacturer of a vehicle. A multiple mediating model was constructed in the study to examine comprehensively how multiple firm performance measures (profitability performance and growth performance) are influenced by entrepreneurial performance through the intervening variables of learning orientation and differentiation strategy. The research placed emphasis on companies in the automotive industry's a component supply network. Structural equation tests and modellings on multiple mediating influences show that, through the mediating role of entrepreneurial performance and differentiation strategy enhances growth performance.

In Sweden, Parida (2018) explored the association between small firm capabilities and competitiveness. Firm capabilities were measured by networking, absorptive, adaptive and innovative capabilities. Three case studies were included in the qualitative study and survey data was used in the quantitative studies sampling 291 small Swedish

firms that are ICT-related for the analysis. It is found during the study that the association between a firm's competitiveness and capabilities is not only express, but mediated also through the strategy of the firm. EO was abstracted as the strategic posture or practice of the small firm.

In India, Singh *et al.* (2018) conducted a desktop review on development of strategy by SMEs for competitiveness with strategy development conceptualized as innovative capabilities and benchmark. 134 research papers were reviewed in the study, majorly from referred journals internationally to identify research thrust areas. Research agenda was proposed and gaps were identified on the basis of review. The study found that in the past, due attention was not given by SMEs for developing strategies that are effective. SMEs were found to face many constraints on export fronts owing to poor innovative capabilities and lack of resources. They have to benchmark their performance, processes and assets for sustaining their competitiveness, with respect to the best in the sector.

In China, Chen *et al.* (2018) studied service firm performance, innovation intensity, and strategic capabilities. Strategic capabilities were measured by social relationships with other firms, innovation intensity and internal resources capability. Sampling 5000 largest corporations, the study utilized structural equation modeling and was cross-sectional in nature. Results revealed that with other firms, social relationships are significant to facilitate service firms' innovative activities. Service firms were further helped by innovation intensity to enhance the expected firm's performance. Capability of internal resources however does not indicate the anticipated influence on innovation intensity.

In Germany, Fonger (2017) studied dynamic capabilities, conceptualized as a firm's ability to detect opportunities and take advantages, and growth of SMEs with reference to firms in North Rhine-Westphalia. The cross-sectional study focused on SMEs of the manufacturing sector in North Rhine-Westphalia with a labour force ranging from 10 to 250 employees, potentially a number of about 3900 enterprises. The study found positive correlation between growth and the firm's ability to detect opportunities and take advantages to exploit and continuously approve its resources' base. It is also found that an environment with a big dynamic influence the growth negatively as a result of the uncertainties, risks which go hand in hand with an increasing dynamism. The international market orientation was also found to have a positive effect on growth as results showed that the companies with an international orientation are more often and more successful than companies who do not.

In Nigeria, Chijioke (2016) assessed the strategies to sustain SMEs. The study conceptualizes strategic capabilities as including market orientation, strategy, innovation, competitiveness and knowledge management. The study was qualitative in approach and employed an exploratory multiple-case study design. Findings reveal 5 main themes emanating during the process of data analysis, including encouraging sustainable growth opportunities, creating new markets, additional funding source securing, earning competitive advantages and participation by employees in decision making.

Kimani (2016) studied business performance and market orientation among SMEs in Kenya. The study used both the descriptive and explanatory techniques. Sampling 160 employees, the study found a positive linkage between market orientation and SME performance in Nairobi County. Performance was related positively to all four market

orientation dimensions and the regression analysis showed that an increase in performance would be as a result of an increase in each of them. Based on the reviewed literature, the study hypothesized that the association between MSME growth and EO is not significantly mediated by firm strategic capabilities.

In contrast, Acquah and Agyapong (2015) investigated the moderating role of marketing and managerial capabilities in the association between firm performance and competitive strategy utilizing data from 581 SMEs in Ghana. Employing a hierarchical regression model, the results show that while performance is related to differentiation strategy, performance is not influenced by cost leadership strategy after several firm-specific factors are controlled for. The results show further that both marketing capability and managerial capability moderate the association between performance for MSBs and competitive strategy (differentiation and cost leadership) in Ghana. Managerial capability however strengthened the cost leadership strategy influence on performance, while how performance is influenced by differentiation is weakened. The findings further paint firm strategic capabilities as a significant indirect factor in the realization of organizational outcomes.

Kiiru (2015) studied SME competitive advantage, dynamic capabilities and strategic orientation in Kenya. The study defines strategic capabilities as the abilities of enterprises to seize and perceive prospects they require to make interconnected investment decisions and strategic choices and make competitive and timely investment decisions. The variable is conceptualized as competition orientation, customer orientation and reconfiguration capabilities. Targeting 8,601 FMCG retail SMEs in Thika Sub-County, the descriptive research found that competitive advantage of SMEs is influenced directly by the strategic dynamic capabilities'

deployment. The findings indicate that an enterprise's both customer orientation and competition orientation mediate partially the association between reconfiguration capabilities and seizing and fully mediates the association between competitive advantage and sensing capabilities. The findings show that, coupled with capabilities of reconfiguration, the most vital dynamic capabilities in improving an SME's competitive advantage were customer-oriented strategies.

In Nairobi County, Kariithi (2015) studied the marketing strategies' influence on SME growth in air travel agencies. Marketing strategies were conceptualized as including measures of cost saving, including creating strategic alliances and partnerships. Sampling 52 SMEs, the descriptive survey establishes that an enterprise's sales growth is significantly influenced by marketing strategies, a significant association was likewise established between an enterprise's profitability and direct distribution channel usage.

### **2.2.3 Environmental Factors and MSME Growth**

Atinc and Ocal (2020) investigated how environmental munificence, environmental complexity, and environmental dynamism possibly moderate the association between changes in board of directors and top management teams and firm performance with reference to entrepreneurial firms that are young. The study controlled for demographic variables including age, education and firm size and performed a hierarchical linear regression. Findings indicated that the three environmental dimensions fail to moderate the association between firm performance and top management teams' rate of change. environmental munificence and complexity however exacerbated the negative association between firm performance and board of directors' rate of change.

In Malaysia, Yusoff (2020) studied in a desktop review the business support services with reference to the challenges and evolution in the new economic model. Business environment is defined in the study as the collection of all internal and external factors which influence a business and conceptualized it as including bureaucracy, incompetency, unmatched product and unsupportive conditions. The study finds that at present, the business support role is important among SMEs, but providers of the services are challenged by an intricate and dynamic business environment typified by issues of unsupportive conditions, incompetency, bureaucracy and unmatched product.

Hussain *et al.* (2019) studied how firm's growth is influenced by growth strategies proposed by Ansoff and how market environment moderates the association with reference to the Pakistani fast-food sector. Findings show that except diversification, all growth strategies by Ansoff contribute significantly to firm's growth. Market environment was moreover found to, except for market penetration, not moderate association between any of Ansoff growth strategies and firm's growth. The study suggests that organizations ought to avoid spreading its business as it inhibits their growth. The study also recommended that before penetrating in market, organizations ought to consider the market environment with a view to fulfill perfectly changes in requirements by customers.

In China, Gima and Li (2019) investigated how performance of new technology ventures is influenced by product innovation strategy. The study found that the link of innovation-performance was dependent on both the venture strategies that are relationship-based including political networking and product development strategic alliances and environmental factors, including institutional support and environmental



turbulence. The results imply the need for concurrent consideration of relationship- and environment-based strategy factors as moderating the product innovation strategy discourse among ventures in new technology.

Martin and Javalgi (2019) examined the moderating role of competitive intensity on the relation between EO, marketing capabilities and performance with reference to Latin American International New Ventures (INVs). The study particularly investigated how, when enhancing performance, the extent of varying between corresponding marketing capabilities and EO under competitive intensities that are differing. Using the parsimonious structural model to test the hypotheses, findings reveal that the association between INVs' marketing capabilities and EO is moderated by competitive intensity. It was found that EO becomes a main INVs component to improve marketing capabilities when the competitive intensity is higher.

In Ghana, Agyapong *et al.* (2019) examined how environmental dynamism moderates the link between performance and strategy. Employing ordinary least squares regression and confirmatory factor techniques, findings reveal that in a dynamic environment, SMEs following strategies that are low cost perform higher while those adopting strategies of differentiation perform lower.

In Indonesia, Kusumawardhani *et al.* (2019) studied the role of government, as indicated by policies, financial aid and technology inputs, in MSMEs with reference to the MSMEs' empowerment in the course of the free trade era. The study adopted the case study design focusing on the Iptekda program which combines a market-based technique and state support for the empowerment of MSMEs in Malang Raya. The findings show that the program benefits MSMEs with regard to improved insights, marketing and productivity among MSMEs.

Bonsu (2018) examined how competitive intensity moderates the association between organizational capabilities (managerial and marketing) and business performance. Sampling 196 SMEs in Ghana, findings from a hierarchical regression model indicate that, family SMEs which adapt managerial and marketing capabilities will constantly perform better than industry players irrespective of the intensity of competition in the business environment. As such, there is a direct association between organizational performance (operational and financial) and organizational capabilities. The moderating interaction was also found to be insignificant and as such, family SMEs are being heartened to enforce best managerial and marketing capabilities to realize superior return on sales and on investments.

Wael and Raedto (2018) investigated how organizational performance and marketing strategy comprehensiveness are influenced by environmental dynamism, which was operationalized as frequency of changes and intensity of changes. With reference to Jordanian cellular communications firms and sampling 60 heads of sections and 53 managers from, findings show that the comprehensiveness of marketing strategy and organizational performance was significantly moderated by environmental dynamism.

Tajeddini and Mueller (2018) studied how environmental dynamism moderates the association between financial performance and a firm's EO, sampling 192 Swiss firms drawn from various sectors. The study controlled for years of experience, firm type, participant's background, firm ownership, firm size, firm age and industry type. A Harman's ex post one-factor was used to enhance the purification of scale and to offer an extra common method variance check. Findings showed that for companies competing in an environment that is highly dynamic, the positive influence of EO on financial performance is improved.

With reference to China Jiao *et al.* (2017) investigated how environmental dynamism moderates the association between new venture performance and dynamic capabilities strategy in a developing economy. Sampling 400 knowledge intensive and high-tech business, findings show that for dynamic capabilities, the innovation strategy coefficient is significant and positive. It also however finds that environmental dynamism and innovation strategy's interaction does not significantly predict dynamic capacities. As such, an innovation strategy has the ability to upgrade and build dynamic capabilities in both stable and rapidly changing environments.

In Kosovo, Govori (2017) defined environmental factors as the exterior macroeconomic setting that is difficult to control conceptualizing it as including legal, economic, political, social, environmental and technological factors, in his critical desktop review to assess the external factors which influence Kosovo's SME development and finds that such external factors as government policies, corruption, competition, and access to finance have a significant influence in SMEs' development in Kosovo. In another desktop review, Dananjaya and Kuswanto (2020) study how performance is influenced by external factors through the SMEs' network. Defining environmental factors as circumstantial attributes which influence the performance of company conceptualizing it as networking. Results of this study show that there is positive significant influence of factors external to the network and performance.

In South Africa, Lekhanya (2018) assessed the predictors of growth and survival of SMEs in rural KwaZulu-Natal. The study conceptualized environmental factors as politics and law, technology and competitive environment. The study was descriptive in design and the study sample consisted of 150 SMEs managers/owners. Data was

analyzed by descriptive statistics, correlation, Chi-square test and multiple regression analysis. The results show that the local market size is significantly small, mainly for selling SMEs products; business growth is influenced by poor infrastructure, tough government regulations and lack of financial support. In Zambia, Musona (2019) analyzed factors that constrain SME growth. The study defined environment factors as opportunities and constraints external to a business organization and conceptualized it as including regulatory constraints, administrative corruption, uncertainty concerning business conditions, legal constraints and constrictive export/import regulations.

Pillay (2017) investigated in a descriptive study, the external and internal challenges that small business owners face in the region of Pietermaritzburg. Employing a multiple regression analysis, results show that growth of the business is hindered by such internal factors as cash flow, lack of financial understanding, obtaining finance, recruiting and retaining staff, managerial skills and shortage of business expertise. External factors including the economy, crime, taxation, laws and regulation, technology, lack of business support and competition were inhibited business growth.

In Kenya, Kyenze (2016) studied factors that influence SME performance with reference to Makueni County. The study defined environment as the "ecology" the firm exists in and conceptualized it as being indicated by competition and business laws. This study applied a descriptive research design and involves 100 randomly sampled SMEs. Employing multiple regression analysis, the study finds that small scale businesses performance is influenced significantly by number of licenses, county regulations and county taxes.

Simiyu *et al.* (2016) conceptualized environmental factors as including government policy and regulations on how the growth of women-ran SMEs is influenced by government regulations and policy in Trans Nzoia County, Kenya. Finding from the descriptive study show that growth of women MSEs was insignificant associated with government regulations and policy. The study suggested that county governments in conjunction with national government ought to accelerate modern business infrastructure provision, technology upgrading and bureaucratic regulatory regime reduction to women SMEs with a view to spur their faster and meaningful growth. Based on the reviewed literature, the study hypothesized that the association between MSME growth and EO is not significantly moderated by firm environmental factors.

In other descriptive study in Kenya, Afande (2015) assessed factors that influence SME growth in Nairobi Central Business District. The study conceptualized environmental factors as including policies and legal framework. The study adopted a descriptive research design and finds that growth of SMEs was influenced positively by access to credit. The study concluded that the government is strongly demanded to implement and elaborate strategies and policies for financing SMEs and for improving and developing financial instruments and financial institutions.

Lumpkin and Dess (2001) studied the linkage between two dimensions of EO (proactiveness and competitive aggressiveness) and firm performance and the moderating role of industry and life cycle environment. Sampling 124 executives involved actively in top level strategic decision making from non-diversified and non-affiliated firms, results indicate that compared to competitively aggressive firms, in environments that are dynamic and characterized by uncertainty and rapid change, higher performance was recorded in proactive firms. In environments that are hostile

characterized by constrained resources and intense competition, stronger performance was recorded in competitively aggressive firms. The results imply that the two perspectives of EO may exhibit different influences on performance of firms depending on the policy and business environments.

### **2.3 Summary of Research Gaps**

Whereas the foregoing studies attempt to link the concepts of EO and MSME growth, results are mixed with regard to the various dimensions of EO and their effect on MSME growth. While some report a significant and positive relationship only between one or some of the dimensions and firm growth, for instance proactiveness (Kusumwardhani, 2019) and Risk Taking (Neneh & Zyl, 2017), others report positive and significant relationships between all three dimensions and growth (Mwangi & Ngugi, 2017). Further, a majority of the studies employed linear conceptualization, only exploring the direct association between variables with no focus on factors either internal or external to the firm that may exhibit indirect influences on the association. Also, none of the studies reviewed was specific to the entire manufacturing sector in Kenya, presenting knowledge gaps that this study set out to bridge.

The foregoing review further reveals that none of the extant studies has explored firm strategic capabilities as a mediating variable in the association between MSME growth and EO. Rather, these studies explore the direct relationship between firm strategic capabilities and various firm outcomes including growth (Kariithi, 2015; Fonger, 2017), performance (Kraa, 2019), competitive advantages (Parida, 2018) and innovation intensity (Singh *et al.*, 2018). Baron and Kenny (1986) describe a mediating variable as elucidating the why or how of an (observed) association between a predictor variable and its outcome variable. According to Kelchner (2020),

firm strategic capabilities determine a firm's ability to translate its firm resources and market orientation into tangible results. As such, firm strategic capabilities were conceptualized as a mediating variable in this study, as MSME growth is only realized when entrepreneurially oriented owners/managers orient their business processes towards the market and translate their firm resources and into tangible results including sales growth, improved annual turnover, increased market share, increased value of assets, increased average return on net assets, increased production capacity, gross profit growth and an increase in the number of employees. It is also revealed from the foregoing review that none of the extant studies has explored environmental factors as a moderating variable in the association between MSME growth and EO. Rather, these studies explore the direct relationship between environmental factors and firm growth and performance (Musona, 2019).

#### **2.4 Conceptual Framework**

Based on the foregoing review, the presented study is anchored on the conceptual framework presented below (Figure 2.1). The study conceptualizes a direct association between EO and MSME growth. The study then hypothesized a moderating effect of environmental factors on the relationship between EO and MSME growth; and a mediating effect of firm strategic capabilities on the relationship between EO and MSME growth. As such, EO forms the independent variable, while environmental factors form the moderating variable. Firm strategic capabilities on the other hand is the mediating variable while MSME growth is the dependent variable.

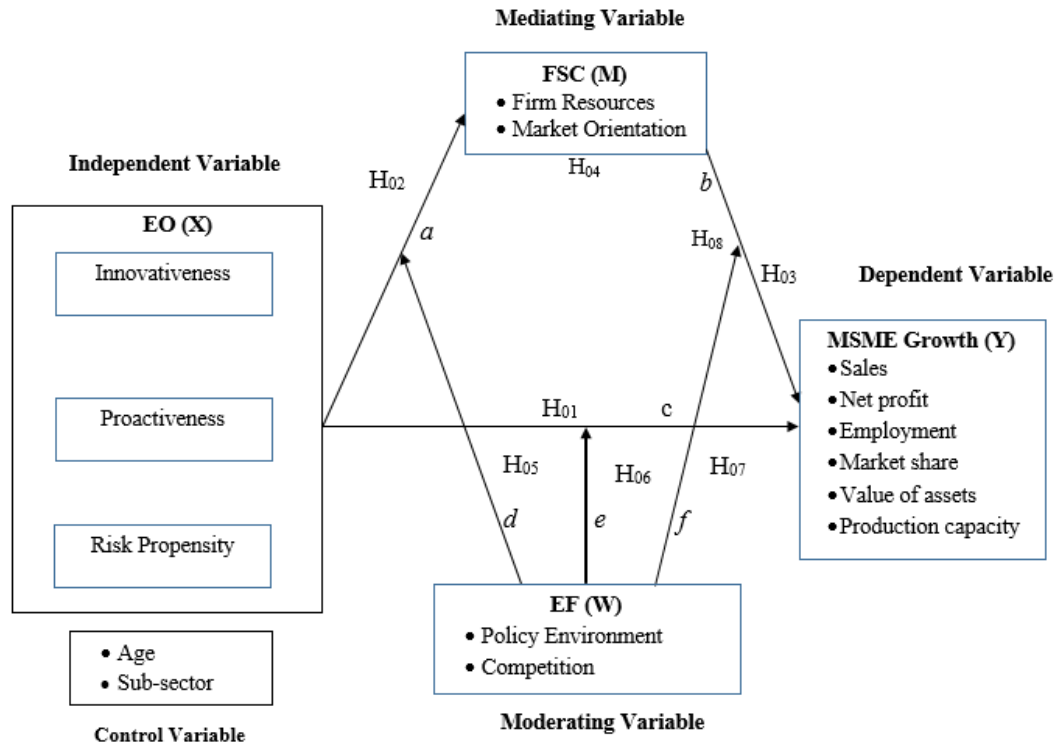


Figure 2.1 Conceptual Framework of the moderating role of Environmental Factors and mediating role of Firm Strategic Capabilities on the relationship between Entrepreneurial Orientation and Growth of manufacturing sector MSMEs, in Nairobi County, Kenya.

Source: Researcher (2020)



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Introduction**

This chapter explores the research methodology adopted in the study. A discussion on data collection techniques, research philosophy, population of study, research design, research variable operationalization, measurement and analytical models are presented. Subsequently a chapter summary is presented.

#### **3.1 Research Philosophy**

Ontology denotes the assumptions concerning nature's reality and determines how a researcher perceives and studies their research objects, which may include management, organizations as well as what to study about in one's research project (Creswell, 2007). Epistemology on the other hand denotes suppositions regarding knowledge, what forms legitimate, valid and acceptable knowledge, as well as how knowledge can be communicated to others (Robson, 2002). Axiology concerns the role played by ethics and values in the process of conducting research. This includes questions concerns how researchers, address both their own biases as well as those held by study respondents (Stringer, 2013). Accordingly, there exists a system of beliefs and ontological, epistemological and axiological assumptions about the development of knowledge, known as research philosophy (Saunders *et al.*, 2011).

Bryman and Bell (2007) defines a paradigm as a cluster of opinions on some specific philosophical assumption researchers ought to follow with a view to create useful knowledge. According to McNabb (2008) a research paradigm is a set of fundamental approaches and rules to problem solving whereby questions are asked by researchers about what phenomenon to examine, the research method to be employed, and how to

interpret results. Saunders *et al.* (2007) assert that the research philosophy concerns the nature and development of knowledge and encompasses important assumptions with regard to the manner in which researchers perceive the world.

In order to conduct a research study scientifically and systematically, it is essential to determine the philosophical paradigm necessary in shaping the methods and approaches required for research activities. There five main philosophies in management and business researchers: positivism, pragmatism, critical realism, postmodernism and interpretivism (Saunders *et al.*, 2007). Laverly (2003) defines pragmatism as a philosophical movement which comprises those who claim that a proposition or ideology is true if it satisfactorily works, that the sense of a proposal is harbored in its practical consequences, and that one ought to reject unpractical ideas. Interpretivism on the other hand is a philosophy of science that prefer humanistic qualitative methods including the use of the open and unstructured interviews and participant observation (Saunders *et al.*, 2007). Laverly (2003) emphasized intimates that interpretivists perceive individuals as complex and intricate and that the same 'objective reality' is understood by different people differently, thus scientific models are not appropriate.

Critical realism stresses on elucidating what the researcher experiences and sees with regard to the fundamental constructions of reality which determine the noticeable events (Brylman & Bell, 2007). Postmodernism lays emphasis on the role played by power relations and language, with a view to interrogate popular ways of thinking and giving audience to alternate marginalized views (Stringer, 2013). Positivism, as defined by Patton (2002) entails the communication with the real world, impartiality, objective reality, consistency, confirmability, explanation of regularities and

dependability. To positivists, only phenomena, which are measurable and observable and can be genuinely regarded as knowledge. Saunders *et al.* (2007) further observe that in the positivistic approach to research, the research is as far as possible undertaken in a value-free way assuming that the research subject is independent of the researcher.

The overall ontological assumption in this study was that entrepreneurial orientation does not have a significant effect on MSME growth; and that, environmental factors do not moderate the indirect relationship between entrepreneurial orientation and MSME growth via firm strategic capabilities. The overall epistemological assumption in this study was that data can only be objective and acquired objectively through structured questionnaires, the sampled objectively and scientifically through probability techniques and that the advanced hypothesis can only be tested quantitatively through various statistical tools. In the present study, axiological assumptions were that the researcher would remain objective by employing scientific tools in sampling, collecting and analyzing data, and that the principles of confidentiality, anonymity, objectivity, consent and voluntary participation.

The present study's epistemological, ontological and axiological assumptions align with the positivism philosophy. As such, this study adopted a positivist approach despite its limitations which include among others, inherent bias in formulation of research questions. The data sought in the study was purely quantitative and that quantitative approaches were used in data collection, analysis and hypothesis testing. The quantitative data expected in the study include frequencies, percentages, measures of dispersion including standard deviations and measures of central

tendencies including means as well as inferential coefficients and measures of statistical significance.

### **3.2 Research Design**

Marshall and Rossman (1999) define research design as the guideline for carrying out systemic research of a subject matter. This study adopted the explanatory research design of a cross sectional nature as it is considered the study sought to explain the hypothesized relationships between and among the study variables, using data collection at one point in time. The design was thus deemed most suitable method for realizing the research objectives. Lee and Ling (2008) define an explanatory research design as one that attempts to connect ideas to understand cause and effect, as well as understand the interaction of concepts. According to Burns and Bush (2000), explanatory research focuses on explaining the 'why' and 'what' aspects of a particular study. Its main aim is to investigate an occurrence that may not have been adequately studied in a proper way.

As indicated by Lewis (2015), cross-sectional survey designs entails collecting a set of information for a sample at one point in time. Contrary to the cross-sectional survey, longitudinal surveys entail collecting at different points in time which may be achieved through either sampling a population at different time points, or by studying a group of entities at different time points. Both cross-sectional survey and explanatory study designs have been successfully used before in small business growth literature (Mwangi & Ngugi, 2017; Adomako, 2016; Neneh & van Zyl, 2017; Kimuru, 2018; Diabate *et al.*, 2019).

### **3.3 Study Area**

The study was carried out in Nairobi City County, one of the 47 counties of Kenya. The smallest yet most populous of the counties, Nairobi County harbours the country's capital and largest city. Nairobi City County is also the Commercial hub of East and Central Africa as well as the Industrial, transport and Communication center of the region and Kenya's' administration center. The Constitution of Kenya 2010 established the Nairobi City County which succeeded the defunct City Council of Nairobi and is selected owing to its highest concentration of MSMEs (65%) across the country (KNBS, 2016; County Government of Nairobi, 2017; KAM, 2019).

The study was particularly carried out across the county with a focus on nine (9) manufacturing zones within Nairobi County as per the NCC planning department formed the strata. These include Peri-Central Business District (CBD), Main Industrial Area, Dandora Industrial Zone, Kariobangi Industrial Zone, Mathare North, Baba Dogo, Zimmerman, Githurai 44 and 45 and Kahawa West.

### **3.4 Target Population**

The target population for this study included all manufacturing sector MSMEs in Nairobi County. There are 174,720 licensed manufacturing sector MSMEs in Kenya and 702,000 unlicensed (KNBS, 2016; KAM, 2018). In view of the aforementioned likely collapse of a considerable number of MSMEs within 3 years of establishment (Government of Kenya, 2015; KNBS, 2016), the study focused on manufacturing sector MSMEs having been in operation for at least three (3) years at the time the study was being conducted. Whereas a preliminary desktop research prior to the main study indicated a total of 98,607 licensed manufacturing sector MSMEs in Nairobi City County, it was revealed during data collection that the Nairobi City County

(NCC) revenue department enlists 103,214 licensed manufacturing sector MSMEs distributed across the county in seventeen (17) different sub-sectors as tabulated in Table 3.1.

**Table 3.1 Target Population**

<b>Sub-sector</b>	<b>Frequency</b>	<b>Percent</b>
Textile & Apparels	7,235	7.0
Food and Beverage	3,621	3.5
Leather	9,631	9.3
Timber	12,870	12.5
Paper and board	10,582	10.3
Agriculture	2,455	2.4
Automotive	1,918	1.9
Iron & Steel	14,902	14.4
Chemicals & Pharmaceutical	942	0.9
Canvas (Tents and allied)	5,586	5.4
Construction Materials	8,590	8.3
Ceramics	2,524	2.4
Compressed Gas Cylinders	619	0.6
Plastics	8,289	8.0
Beauty Products	3,703	3.6
Paints	1,976	1.9
Rubber Products	7,771	7.5
<b>Total</b>	<b>103,214</b>	<b>100.0</b>

Source: NCC (2019)

### 3.5 Sampling Design and Procedure

To obtain the sample size, the Fisher (1983) sample size determination formula was employed as follows:

$$n = \frac{Z^2 pq}{d^2}$$

Where n = the desired sample from populations with greater than 10,000 individuals

Z = is the given normal deviate at the set level of confidence (1.96) at 0.05

p = is the share of the population projected to bear the attributes being measured when uncertain, so a middle ground (0.5) is taken

$$q = 1-p$$

d is statistical significance level

$$\text{Therefore } n = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2} = 384$$

As such, the determined sample size was 384, proportionately distributed from the target population as is depicted in Table 3.2.

**Table 3.2 Sample Size Distribution**

<b>Sub-sector</b>	<b>Frequency</b>	<b>Percent</b>
Textile & Apparels (Clothing fibers: silk, wool, linen, cotton)	27	7.0
Food and Beverage (Flour, drink products, candy, food additives)	13	3.5
Leather (Shoe, garment and furniture materials)	36	9.3
Timber (Furniture products: Chipboards, plywood)	48	12.5
Paper and board (printing papers, packaging material)	39	10.3
Agriculture (Herbicides, pesticides)	9	2.4
Automotive (Spare parts)	7	1.9
Iron & Steel (Stainless steel, wire rods, alloy steel)	55	14.4
Chemicals & Pharmaceutical (Lab products, curative drugs)	4	0.9
Canvas (Tents and allied)	21	5.4
Construction Materials (Structural bars, glass, metal sheets)	32	8.3
Ceramics (Pottery products, tiles)	9	2.4
Compressed gas cylinders	2	0.6
Plastics (Water tanks, packaging bottles, utensils)	31	8.0
Beauty Products (Hair products, body lotions and oils)	14	3.6
Paints (Wall paints, car paints, steel paints)	7	1.9
Rubber Products (Silicone rubber, conveyor belts, erasers, tubes)	29	7.5
<b>Total</b>	<b>384</b>	<b>100.0</b>

Source: NCC (2019)

To arrive at the established sample (384), the study first employed stratified sampling based on Sub-sectors as the strata, where the sampling frame (103,214) was first broken down into 17 categories, as per the 17 sub-sectors. Business entities under each subsector were then listed down and pasted into the Microsoft (MS) Excel programme. Simple random sampling was then employed, in which random numbers were assigned to each business entity under the respective subsectors and automatically randomized. The randomized lists were then extracted from the subsectors according to their established sample sizes. These were then manually

located and distributed across the 9 manufacturing zones based on their registered addresses as per the NCC planning department. This is presented in Table 3.3.

**Table 3.3 Manufacturing Zones (Strata)**

<b>Zone</b>	<b>Areas Covered</b>	<b>Type of Development</b>
1	Peri-CBD	Light industries
2	Main Industrial Area	Industries/Godowns
3	Dandora Industrial Zone	Light Industries/Godowns
4	Kariobangi Industrial Zone	Light Industries/Godowns
5	Mathare North	Light Industries/Godowns
6	Baba Dogo	Light Industries
7	Zimmerman	Light Industries
8	Githurai 44 and 45	Light Industries
9	Kahawa West	Light Industries

Source: NCC (2019)

To aid in locating respondents in each zone, the NCC Revenue Department details the registered addresses for the manufacturing MSMEs. This is tabulated in Table 3.4.

**Table 3.4 Proportionate Sampling by Sub-sector and Zone**

<b>Sub-sector</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>Total</b>
Textile & Apparels	5	4	3	2	2	2	3	4	2	<b>27</b>
Food and Beverage	4	3	1	0	0	1	2	0	2	<b>13</b>
Leather	10	9	3	2	0	3	5	3	1	<b>36</b>
Timber	11	12	5	3	3	5	5	2	2	<b>48</b>
Paper and board	5	13	7	6	3	0	3	2	0	<b>39</b>
Agriculture	3	5	1	0	0	0	0	0	0	<b>9</b>
Automotive	0	7	0	0	0	0	0	0	0	<b>7</b>
Iron & Steel	12	41	2	0	0	0	0	0	0	<b>55</b>
Chemicals &										<b>4</b>
Pharmaceutical	0	4	0	0	0	0	0	0	0	
Canvas (Tents and allied)	5	10	3	3	0	0	0	0	0	<b>21</b>
Construction Materials	9	18	5	0	0	0	0	0	0	<b>32</b>
Ceramics	2	7	0	0	0	0	0	0	0	<b>9</b>
Compressed Gas Cylinders	0	2	0	0	0	0	0	0	0	<b>2</b>
Plastics	3	12	4	3	3	2	2	1	1	<b>31</b>
Beauty Products	0	12	2	0	0	0	0	0	0	<b>14</b>
Paints	0	7	0	0	0	0	0	0	0	<b>7</b>
Rubber Products	9	10	5	6	0	0	0	0	0	<b>30</b>
<b>Total</b>	<b>77</b>	<b>175</b>	<b>40</b>	<b>24</b>	<b>11</b>	<b>13</b>	<b>20</b>	<b>12</b>	<b>8</b>	<b>384</b>

Source: Researcher (2019)



### 3.6 Data Collection Instruments

The study collected primary quantitative data using structured questionnaires were employed in this study, developed based on adoption and modification from previous studies. Structured questionnaires are favored because as Dempsey (2003) argues, they are effective instruments for data collection as they confine responses within predetermined factors aimed at addressing the set objectives. Kothari (2006) also notes that the information obtained from structured questionnaires is objective and therefore valid. Previous studies in Business, for example, Ndemo (2004), Kamoshe (2000), Coyne (1986), have also favored the use of questionnaire. Whereas the study utilized only one variant of the questionnaire for micro, small and medium enterprises, it was possible to sort out responses by the size of the business based on their responses on the number of employees.

The questionnaire was structured into five sections namely A, B, C, D and E. Section A covers the Demographic Characteristics. Section B on the other hand focuses on EO with its sub-constructs including Innovativeness, Risk Propensity and Proactiveness as adopted from Ljungquist and Ghannad (2008), Osoro (2012), Yamoah (2016), Neneh and Zyl (2017), Osoro (2012), Wainaina (2017), Mwangi and Ngugi (2017), Mwai *et al.* (2018); Gathungu and Baariu (2018). Section C delves into Environmental Factors with its indicators including Regulatory Policies and Government Support as adopted from Musona (2019), Dananjaya and Kuswanto (2020), Kusumawardhani *et al.* (2019), Pillay (2017), Lekhanya (2018), Kyenze (2016), Afande (2015) and Simiyu *et al.* (2016). Section D contains questions pertaining to Firm Strategic Capabilities with its indicators including Firm Resources and Market Orientation as adopted from Obeng *et al.* (2018), Kiiru (2015), Kariithi (2015), Chijioke (2016), Kimani (2016), Kraa (2019), Fonger (2017), Parida (2018),

Singh *et al.* (2018) and Chen *et al.* (2018). The final section E, covers MSME Growth as indicated by Number of Employees.

### **3.7 Data Collection Procedure**

Before carrying out the research, the researcher first acquired approval and clearance from the University to conduct the study. Upon being approved, a research authorization was sought from the National Commission for Science Technology and Innovation (NACOSTI). The introduction letters from Moi University, research permit and the Nairobi County Government were used together with the transmittal letter (Appendix 1) and the questionnaire for collecting data from the respondents for the study. To aid in data collection, The researcher recruited research assistants who assisted in administering the questionnaires to the participants. The research assistants had to be graduates who would comprehend the research process and deliver a desirable response rate and within agreed time. The researcher (and assistants) personally administered the 384 questionnaires to the respective respondents in various locations. The respondents were manufacturing MSME owners/managers owing to their decision-making autonomy and direct involvement in day-to-day business operations.

### **3.8 Data Measurement**

#### **3.8.1 Dependent Variable (MSME Growth)**

The dependent variable, MSMEs growth was measured by growth in value of assets, market share, production capacity, sales, profits, and number of employees. The measures of growth were adopted and modified from previous studies including: Neneh and Zyl (2017); Haltiwanger *et al.* (2013); Davis *et al.* (2007); and Yamoah (2016).

### **3.8.2 Independent Variable (Entrepreneurial Orientation)**

The independent variable, Entrepreneurial Orientation was measured by 3 sub-scales including: Innovativeness, Risk propensity and Proactiveness. These are established measurement scales and are adopted and modified from a number of previous studies including Osoro (2012) and Neneh and Zyl (2017).

### **3.8.3 Moderating Variable (Environmental Factors)**

The moderating variable, environmental factors was measured by 3 sub-scales including regulatory policies, government support and competition. The measures of Environmental Factors were adopted and modified from previous studies including: Yusoff (2020), Govori (2017), Kusumawardhani *et al.* (2019) and Kyenze (2016). These were then subjected to factor analysis for validation.

### **3.8.4 Mediating Variable (Firm Strategic Capabilities)**

Firm Strategic Capabilities, the mediating variable was measured by 2 sub-scales including: Firm resources and Market Orientation. These are also established measurement scales for Firm entrepreneurial orientation and are adopted and modified from previous studies including: Fonger (2017), Parida (2018), Chen *et al.* (2018) and Kraa (2019).

### **3.8.5 Control Variable (Age and Sub-Sector)**

Throughout the hypothesis tests, the study controlled for both enterprise age and sub-sector, as they have been found in previous studies to influence firm growth. Based on business register data, recent academic research has for instance identified that rather than its size, a firm's age is the key determinant of employment growth and net job creation (Criscuolo *et al.* 2014; Haltiwange *et al.*, 2010; Lawless, 2013; Dixon & Rollin, 2012). These studies demonstrate that since small, firms also seem to be young, a

mistaken perception exists that the drivers of economic and employment growth are small as opposed to young firms. Further, since young firms also tend to be small, there is a mistaken perception that small firms rather than young firms are the drivers of in the economy.

### **3.9 Reliability and Validity Tests**

Sekeran (2009) asserts that the aim of research is to establish accurate and truthful findings, yet study results is dependent on its measures and it is therefore imperative to appraise the adequacy of its measures. Therefore, it is essential to pay particular consideration to reliability and validity. The two foregoing factors assure the systematic and scientific worth of the study by affirming that findings are appropriate and useful. Proper data collection design is vital for reaching valid and reliable conclusions. Information ought to be gotten on a comparable foundation across persons if the meaning is to make general or aggregate statements on survey information basis.

#### **3.9.1 Reliability Tests**

Reliability entails the degree at which data collection instruments are consistent (Kothari, 2006). In order to test the scale reliability, the alpha value of the reliability coefficient was used. The value of the coefficient alpha varies from zero, which denotes no internal consistency, to one representing perfect internal consistency. The measurement scales were measured for reliability using the Cronbach's alpha coefficient. Cronbach's alpha is computed as:  $\text{Alpha} = [Nr/1 + r(N-1)]$  and is the most commonly utilized coefficient is of internal consistency where r denotes mean inter item correlation and N denotes number of items in the scale. It designates the degree to which a collection of test items may be treated as assessing a single latent variable.

According to George and Mallery (2003) the alpha value of greater than 0.50 is suggested as being satisfactory and acceptable to test for the reliability of constructs. Whereas, Nunnally (1978) recommended that the modest reliability of a construct should be 0.7, table 3.5 presents different reliability levels.

**Table 3.5: Reliability of the Instrument**

<b>Reliability</b>	<b>Percentages</b>
Not Reliable	$0.10 \leq V < 0.46$
Low Reliability	$0.46 \leq V < 0.64$
Sufficient Reliability	$0.64 < V \leq 0.82$
High Reliability	$0.82 < V \leq 1.00$

Source: George and Mallery (2003)

According to Tashakkori and Teddlie (2010), a questionnaire is considered highly reliable if it has a Cronbach Alpha coefficient of between 0.82 and 1.00; sufficient reliability if between 0.64 and 0.82; has low reliability of between 0.46 and 0.64; and not reliable if between 0.10 and 0.46. Results from the pilot study, indicated internal consistency as all items were found sufficiently reliable. The questionnaire was therefore adopted in the main study.

### **3.9.2 Validity Tests**

Validity is defined by Kothari (2003) as the degree to which the test assesses what it purports to assess. In the present study, face, construct and content validity tests were employed. To check for both face and content validity, expert opinion was sought with a view to enhance face and content validity of the data collection instruments. A pilot test was conducted for the survey instrument by using a sample of ten manufacturing MSMEs from the neighboring Kiambu County. To assess the appropriateness of constructs stated earlier, confirmatory factor analysis (CFA) was employed. Factor analysis was conducted to confirm the predetermined constructs

under each variable as well as to reduce the factors in the questionnaire as necessary. The conditions to be met in this regard included KMO ( $>.5$ ) and Bartlett's tests ( $<0.05$ ), Eigen values ( $>1.0$ ) and factor loadings ( $>0.4$ ). Validity test results from the pilot study confirmed all constructs adopted in the questionnaire. The questionnaire was therefore adopted in the main study.

### **3.10 Pilot Test Study**

To test for both validity and reliability of the instruments, a pilot study was carried out. This test also assisted the researcher to find out the average time taken to fill-in each questionnaire, in order to make the necessary adjustments. In the entire research process, a pilot study is the first step and is often a smaller-scaled study helping in modification and planning of the main research study (Thabane, Chu, Ma, Cheng, Rios & Ismaila, 2010). Connelly (2008) puts forth that at least 10% of the sample size can constitute the pilot test. As such, the pilot study collected data from thirty-eight (38) MSMEs in Kiambu County, which is within a neighbouring County to the one where the main study data was later collected. The filled questionnaires from the pilot study were then reviewed and analysed by the researcher and shared with supervisors, to get further insights and suggestions for improvements. The pilot study report is appended in Appendix XIII.

### **3.11 Data Processing and Analysis**

Data from the filled questionnaires were coded once the questionnaires are collected by grouping the items into the various dimensions. The data was computed using SPSS version 26. To test the research hypothesis and analyze data, both inferential and descriptive statistics were employed.

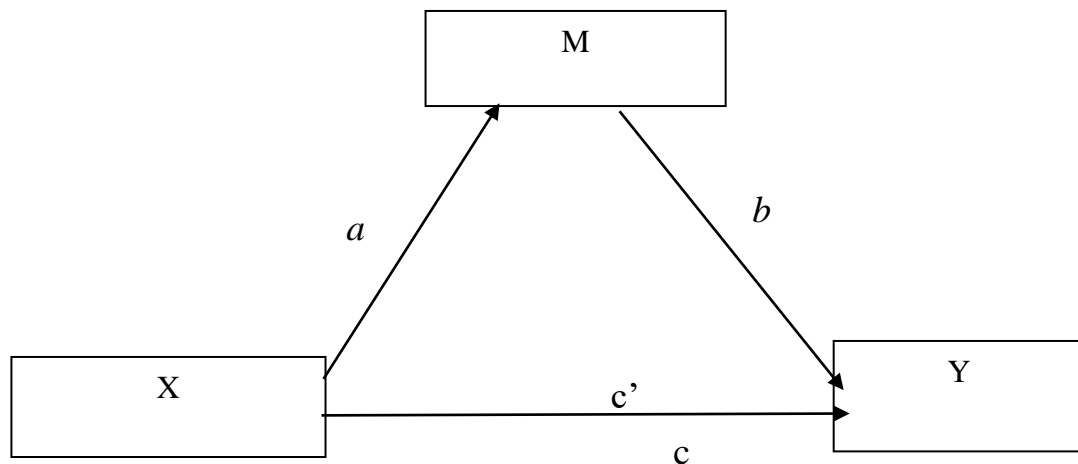
In the form of standard deviations, means and frequencies, descriptive statistics were used to analyze data obtained from the profile of the MSMEs to be surveyed. Inferential statistics include simple linear regression analyses to test the direct relationships and Hayes models 4 and 59 for mediation, moderation and moderated mediation. Analysis was done at 95% confidence level.

Prior to data analysis, the study performed reliability and validity tests with a view to determine the internal consistency in the data collection instruments as well as to check the suitability of the stated constructs. Both Cronbach's alpha coefficient and CFA were used to check for reliability and validity tests respectively.

Factor analysis was further used to explore the data for patterns and reduce the many sets of statements in the questionnaire to a more manageable number as well as group variables with similar characteristics. The study adopted Kaiser's recommendation of Kaiser-Meyer-Olkin values greater than 0.5 as agreeable for factor analysis to be considered (Kumar, 2011).

### **3.11.1 Model Specification**

The study adopted regression models 4 and 59 as developed by Hayes (2013), who introduced regression analyses containing various groupings of covariates, moderators, and mediators and their respective modifications to statistical programs like SPSS for computing purposes. Model 4 illustrated in Figure 3.1 was used to test hypotheses H<sub>01</sub>, H<sub>02</sub> H<sub>03</sub> and H<sub>04</sub>.



**Figure 3.1: Hayes Model 4**

Source: Hayes (2013)

Where:

$a$  is the direct effect of  $X$  on  $M$

$b$  is the direct effect of  $M$  on  $Y$

$c$  is the direct effect of  $X$  on  $Y$

$c'$  is the indirect effect of  $X$  on  $Y$  through  $M$

Accordingly, the PROCESS macro, a plugin developed by Hayes (2013) was installed into SPSS to aid in all the statistical analyses to test for direct effects, mediation, moderation and moderated mediation.

### Controls

The study controlled for Age and Sub-sector in order to avoid the variables' confounding influence on the outcomes of both the direct and indirect regression analyses. To this end, all the direct regression analyses involved two models, with Model 1 including the control variables, Age and Sub-sector while the independent variables of interested were introduced in Model 2. In Mediation, Moderation and Moderated Mediation, the control variables were included as confounding factors in the models.



### Direct Effect

The study tested three (3) simple direct effects of factor variables on outcome variables. The study first tested the direct effect of EO on MSME Growth. Based on the first direct effect, the study tested hypothesis 1 as per Model 2.

$$Y = \alpha_1 + c_1\text{Age} + c_2\text{Subsector} + \varepsilon_1. \dots\dots\dots \text{Model 1 (Control)}$$

$$Y = \alpha_2 + c_3\text{Age} + c_4\text{Subsector} + c_5X + \varepsilon_2\dots\dots\dots \text{Model 2 (Direct Effect)}$$

Where: Y = MSME Growth;  $\alpha$  = Model constant; c = Beta coefficients; X = Entrepreneurial Orientation;  $\varepsilon$  = Error term

The study also tested the direct effect of EO on firm strategic capabilities. Based on the second direct effect, the study tested hypothesis 2 as per Model 4.

$$M = \alpha_3 + a_1\text{Age} + a_2\text{Subsector} + \varepsilon_3\dots\dots\dots \text{Model 3 (Control)}$$

$$M = \alpha_4 + a_3\text{Age} + a_4\text{Subsector} + a_5X + \varepsilon_4\dots\dots\dots \text{Model 4 (Direct effect)}$$

Where: M = Firm Strategic Capabilities;  $\alpha$  = Model constant; a = Coefficients; X = Entrepreneurial Orientation;  $\varepsilon$  = Error term

The study further tested the third direct effect of firm strategic capabilities on MSME Growth. Based on the third direct effect, the study tested hypothesis 3 as per Model 6.

$$Y = \alpha_5 + b_1\text{Age} + b_2\text{Subsector} + \varepsilon_5\dots\dots\dots \text{Model 5 (Control)}$$

$$Y = \alpha_6 + b_3\text{Age} + b_4\text{Subsector} + b_5M + \varepsilon_6\dots\dots\dots \text{Model 6 (Direct effect)}$$

Where: Y = MSME Growth; M = Firm Strategic Capabilities;  $\alpha$  = Model constant; b = Coefficients;  $\varepsilon$  = Error term

## Mediation

Mediation analysis tested for the indirect effect of X on Y via the mediating variable, M (firm strategic capabilities). To this end, the study first tested for the direct effect of X on M and noted the statistical significance of the effect. In the second equation, the indirect effect of X on Y via M was tested. The mediation effect is said to be significant if the coefficient of bM is statistically non-zero and its confidence interval excludes a zero value. Based on the mediation analysis effect, the study tested hypothesis 4 as per Model 7.

$$M = \alpha_4 + a_3\text{Age} + a_4\text{Subsector} + a_5X + \varepsilon_4 \dots \dots \dots \text{Model 4 (Direct effect)}$$

$$Y = \alpha_7 + a_6\text{Age} + a_7\text{Subsector} + c'_1X + b_6M + \varepsilon_7 \dots \dots \dots \text{Model 7 (Mediating effect)}$$

$H_{04} = a_5 * b_6 \dots \dots$  Mediation is determined by significance of the indirect path from EO to MSME growth through Firm Strategic Capabilities, which is obtained by the product of  $a_5$  (X to M in Figure 3.2) and  $b_6$  (M to Y in Figure 3.2)

Note: **a** is from model 4 and **b** from model 6

Where: Y = MSME Growth; M = Firm Strategic Capabilities;  $\alpha_4$  = Model constant;  $c'$  = Coefficient of respective variables; X = Entrepreneurial Orientation;  $b$  = Coefficient of Firm Strategic Capabilities;  $\varepsilon$  = Error term

## Moderation

Moderation analysis was conducted in three parts. First, the study tested for the direct effect of an interaction between X and the moderating variable W (environmental factors) on M. Secondly, the study tested the direct effect of an interaction between X and W on Y. In the third part, the study interaction M and W and tested the effect of the interaction on Y. The moderation effect is said to be significant if the coefficient of interaction is non-zero and its confidence interval excludes a zero value. As such, moderation analysis was employed in testing hypotheses 5, 6 and 7 based on Models 8, 9 and 10 respectively.

$$M = \alpha_8 + a_8\text{Age} + a_9\text{Subsector} + a_5X + a_{10}W + a_{11}X*W + \varepsilon_8 \dots \dots \dots \text{(Model 8)}$$

$$Y = \alpha_9 + c'_2\text{Age} + c'_3\text{Subsector} + c'_1X + c'_4W + c'_5X*W + \varepsilon_9 + \varepsilon_9 \dots \dots \dots \text{(Model 9)}$$

$$Y = \alpha_{10} + c'_6\text{Age} + c'_7\text{Subsector} + b_6M + c'_8W + b_7M*W + \varepsilon_{10} \dots \dots \dots \text{(Model 10)}$$

Where:  $\alpha_1$  = Constant of Model 1; M = Firm Strategic Capabilities; X = Entrepreneurial Orientation; W = Environmental Factors; a = Coefficients;  $c'$  = Variable coefficients for indirect effects  $\varepsilon$  = Error term

### **Moderated Mediation**

Under the moderated mediation analysis, the study tested whether the conditionality of the indirect effect of X on Y via M was through W. The analysis was performed in two equations with M and Y as the outcome variables respectively, from combining both Model 8 and 11. The equations are derived from model 59 process macro. The moderated mediation is considered significant if the coefficient of the second interaction between M and W with Y as the outcome variables is non-zero and its confidence interval excludes a zero value (Hayes, 2016). This was performed in testing hypothesis 8.

$$M = \alpha_8 + a_8\text{Age} + a_9\text{Subsector} + a_5X + a_{10}W + a_{11}X*W + \varepsilon_8 \dots \dots \dots \text{(Model 8)}$$

$$Y = \alpha_2 + c'_9\text{Age} + c'_{10}\text{Subsector} + b_6M + c'_1X + c'_{11}W + c'_5X*W + b_7M*W + \varepsilon \dots \dots \dots \text{(Model 11)}$$

$$= (a_5 + a_{10}W) (b_6 + b_7W) \dots \dots \dots \text{(Combined Model 8 and 11)}$$

Moderated mediation is determined by significance of the product of interaction between X and W on M ( $a_5 + a_{10}W$  in Figure 3.2) and between M and W on Y ( $b_6 + b_7W$  in Figure 3.2).

Where:  $a_1$  = Coefficient of Entrepreneurial Orientation;  $a_3$  = Coefficient of interaction between Entrepreneurial Orientation and Environmental Factors in the

mediation model;  $b_1$  = Coefficient of Firm Strategic Capabilities  $b_2$  = Coefficient of Firm Strategic Capabilities interacted with Environmental Factors

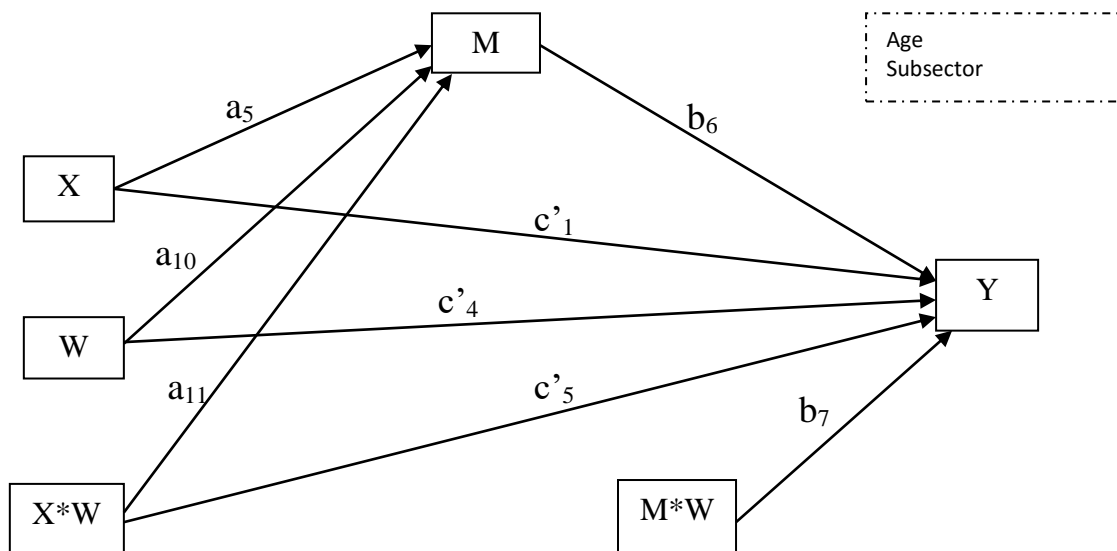
**W** will be the levels of moderator

Where  $W =$  1 SD  
0  
-1SD

**Table 3.6: Model Specification Summary**

Analysis	Model	Hypothesis
Direct Effect	$Y = \alpha_1 + c_1\text{Age} + c_2\text{Subsector} + \varepsilon_1$ ..... Model 1	H <sub>01</sub>
	$Y = \alpha_2 + c_3\text{Age} + c_4\text{Subsector} + c_5X + \varepsilon_2$ ..... Model 2	H <sub>02</sub>
	$M = \alpha_3 + a_1\text{Age} + a_2\text{Subsector} + \varepsilon_3$ ..... Model 3	
	$M = \alpha_4 + a_3\text{Age} + a_4\text{Subsector} + a_5X + \varepsilon_4$ .....Model 4	H <sub>03</sub>
	$Y = \alpha_5 + b_1\text{Age} + b_2\text{Subsector} + \varepsilon_5$ ..... Model 5 $Y = \alpha_6 + b_3\text{Age} + b_4\text{Subsector} + b_5M + \varepsilon_6$ ..... Model 6	
Mediation	$M = \alpha_4 + a_3\text{Age} + a_4\text{Subsector} + a_5X + \varepsilon_4$ .....Model 4	H <sub>04</sub>
	$Y = \alpha_7 + a_6\text{Age} + a_7\text{Subsector} + c'_1X + b_6M + \varepsilon_7$ ..... Model 7 $H_{04} = a_5 * b_6$	
Moderation	$M = \alpha_8 + a_8\text{Age} + a_9\text{Subsector} + a_5X + a_{10}W + a_{11}X*W + \varepsilon_8$ ...(Model 8)	H <sub>05</sub>
	$Y = \alpha_9 + c'_2\text{Age} + c'_3\text{Subsector} + c'_1X + c'_4W + c'_5X*W + \varepsilon_9 + \varepsilon_9$ ... (Model 9)	H <sub>06</sub> H <sub>07</sub>
	$Y = \alpha_{10} + c'_6\text{Age} + c'_7\text{Subsector} + b_6M + c'_8W + b_7M*W + \varepsilon_{10}$ ... (Model 10)	
Moderated Mediation	$M = \alpha_8 + a_8\text{Age} + a_9\text{Subsector} + a_5X + a_{10}W + a_{11}X*W + \varepsilon_8$ ...(Model 8)	H <sub>08</sub>
	$Y = \alpha_2 + c'_9\text{Age} + c'_{10}\text{Subsector} + b_6M + c'_1X + c'_{11}W + c'_5X*W + b_7M*W + \varepsilon$ ... (Model 11)	

The following equations were considered for hypotheses H<sub>05</sub>, H<sub>06</sub>, H<sub>07</sub> and H<sub>08</sub>, based on the Baron and Kenny (1986), and Hayes (2013). As illustrated in figure 3.2, this enabled testing of the moderating effect of EF on all three paths concurrently.



Conditional indirect effect of X on Y through  $y = (a_5 + a_{10}W) (b_6 + b_7W)$

Conditional direct effect of X on Y =  $c'_1 + c'_5W$

**Figure 3.2: Hayes Model 59**

Source: Hayes (2013)

The conditional indirect effects were computed as the outcome of regression weights that are unstandardized for the route from the factor (EO) to the intervening variable (FSC), and for the route from the intervening variable (FSC) to the dependent variable (Growth). That is, for different level EF(M), the co-efficient for Path a and Path b were separately calculated. They were computed in this study, at three levels of EF: ‘mean’ EF (mean); low’ EF (mean subtract one standard deviation); and ‘high’ (mean, add one standard deviation).

The relationship between EO and firm growth has been found in empirical literature (Miller, 1983; 2011; Des *et al.*, 1997; Slater *et al.* 2006) to be context specific, in that, various contextual factors both with and without the firm affect the relationship. This

implies that a simple direct cause-effect association between firm growth and EO is inadequate in understanding the association between the two concepts. This is more so pertinent among MSMEs as they exist in a dynamic competitive and regulatory environment in which they are susceptible to owing to resource constraints. As such, the extent to which MSMEs owners/managers are able to leverage innovativeness, harness opportunities in the environment in which they exist and take business-related risks is critical in mobilizing resources including strategically valuable assets, skills and expertise which are critical for their ultimate growth. The foregoing justifies Hypothesis 5, the moderation between EO and FSC.

### **3.11.2 Diagnostic Tests**

The study proceeded with the following assumptions: the dependent variable was measured on a continuous scale, most of the data was collected using Likert scale questions and mean scores were computed that were used in the final analysis; two or more independent variables, were either categorical or continuous; the observations were independent which one can easily check using the Durbin-Watson statistic; there would be a linear association between (a) each of the factor and the predictor variables and (b) the independent and dependent variables collectively; there is homoscedasticity in the data, whereby as one moves along the line, the variances along the best fit line remain; multicollinearity is shown in the data when the study contains two or more highly correlated independent variables; there would be no significant high leverage points, outliers or highly influential points; and that the residuals (errors) are roughly normally distributed (Morone & Testa, 2008; Kumar, 2011; Johnson & Onwuegbuzie, 2004).

Diagnostic tests of normality, multicollinearity and heteroscedasticity were first performed before the descriptive and inferential analyses. Tests of normality help to confirm whether the data follows an asymmetrical or normal distribution. In this study the normality was tested using the Shapiro-Wilk and Kolmogorov-Smirnov Tests. Probability values obtained should be greater than 0.05, otherwise the data significantly deviates from a normal distribution. According to Newbert (2008), multicollinearity tests an evaluation of the level of correlation of the independent variables. Variance Inflation Factor (VIF) was utilized to check for multicollinearity among predictor variables. A VIF of 10 indicates high multicollinearity, while 5 indicates little. To calculate for VIF, the following formulae were used.

$$VIF = \frac{1}{1 - R^2}$$

Homoscedasticity assumes that there is constant variance of errors. Heteroscedasticity, which is a violation of homoscedasticity, makes it problematic to measure the true forecast errors' standard deviation. The scattered residual plot was used to check for the presence or absence of Homoscedasticity. For subsequent tests hold, the study managed the data by making necessary corrections to ensure that the data is normally distributed, there is homogeneity of variance and that there is no problem of multicollinearity. Hypotheses were performed at 95% confidence interval, implying a threshold of 0.05 level of statistical significance (P Value). As such, the study accepted the null hypotheses for the direct effects if P values for the respective independent variables fall above 0.05 and fail to accept the null hypotheses if P values for the respective independent variables fall below 0.05. The study also accepted the null hypotheses for the moderated effects if P values for the respective interactions fall above 0.05 and fail to accept if below 0.05. The study further accepted the null

hypotheses for the mediated effects if P values for the respective mediating variables fall above 0.05 and failed to accept if below 0.05.

The study further proceeded with mediation on the condition that: There is a significant direct effect between a predictor factor and the dependent variable; there is a significant direct effect between a predictor factor and the mediating variable; and that there is a significant direct effect between the outcome and mediating variable. The analysis also assumed that there is no measurement error in the mediating variable (Hayes, 2013; Saunders *et al.*, 2007). To perform the moderation analysis, the following conditions were first met: There is no measurement error in the moderator variable; the dependent variable did not cause the moderation; that the moderating variable and independent variables are standardized by centralizing the mean so as to reduce multicollinearity.

### **3.12 Ethical Considerations**

The study upheld principal ethical requirements strictly without any infringements. The study first of all sought permission from the university prior to the commencement of the thesis process. The study then only continued after the university had granted a research authorization letter. The study then applied for a research permit with NACOSTI. Before taking part in the study, participants were appropriately informed that the study is conducted only for academic purposes and that it was not mandatory for them to participate. Participants were then only allowed to participate after signing informed consent. Participants were further allowed to refrain from the study at any time. Participants were also assured of confidentiality and anonymity for all the data they provided. As the study also entailed a review of secondary data from books, academic articles, and journals, respective authors were



recognized though in text citation and referencing for conformity to policy and avoidance of plagiarism.

## **CHAPTER FOUR**

### **DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION OF FINDINGS**

#### **4.1 Introduction**

The study set out to assess the moderated mediation role of environmental factors and firm strategic capabilities on the association between entrepreneurial orientation including risk propensity, proactiveness and innovativeness and growth of manufacturing sector MSMEs, in Nairobi County, Kenya. To accomplish this broad objective, eight particular objectives were formulated and respective hypotheses stated and tested. Accordingly, this chapter presents analyzes data as obtained from field responses and their interpretation. Discussions of the findings are further presented in relation to previous related empirical studies. The main analytical operations employed herein include the preliminary screening of data, descriptive analyses and inferential analytics.

#### **4.2 Response Rate**

Having targeted 384 participants, a response rate of 81.25% (Table 4.1) was achieved in the study with 312 participants reached. The response rate is regarded as excellent by Creswell (2013) who considers response rates of 70% and over as excellent, 60% as good and 50% as adequate for conducting data analyses. This is in tandem with Rea and Parker (1997) who terms response rates of between 50% and 60% as adequate and above 70% as excellent. This is further consistent Fowler (1984) who postulates that a 60% and above response rate is adequately representative of the study population. The high response rate was achieved owing to the researcher recruiting research assistants who assisted in administering the questionnaires to the

participants. The mode of administration was also researcher-administered, which minimized non-response due to the respondents' busy schedules.

**Table 4.1: Response Rate**

<b>Questionnaires</b>	<b>Frequency</b>	<b>Percent (%)</b>
Returned	312	81.25
Unreturned	72	18.75
<b>Distributed</b>	<b>384</b>	<b>100.0</b>

Source: Survey Data (2020)

### **4.3 Preliminary Diagnostic Tests**

Prior to data analysis, the study performed various diagnostic tests with a view to check for data quality and eliminate any errors in preparation for both descriptive and inferential analyses. Preliminary tests would thus assure both the quality of output and correctness of the type of analysis to be used. To this end, data diagnostics included: tests for reliability and validity, analysis of missing values, outliers, normality, multicollinearity as well as homogeneity of variances.

#### **4.3.1 Reliability Test**

The study conducted a pilot study to assess questionnaire reliability. According to Tashakkori and Teddlie (2010), a questionnaire is considered highly reliable if it registers a Cronbach Alpha coefficient of between 0.82 and 1.00; sufficient reliability if between 0.64 and 0.82; has low reliability of between 0.46 and 0.64; and not reliable if between 0.10 and 0.46. As presented in Table 4.2, all the scales were found to highly reliable, having Cronbach alpha levels prescribed by Tashakkori and Teddlie (2010). All variables were found to be highly reliable: Entrepreneurial Orientation (.928); MSME growth (.819), Firm Strategic Capabilities (.744) and Environmental Factors (.726).

**Table 4.2: Reliability Coefficients**

<b>Scale</b>	<b>Final Items</b>	<b>Final Cronbach Alpha</b>
Entrepreneurial Orientation	18	.928
Firm Strategic Capabilities	12	.744
Environmental Factors	14	.726
MSME Growth	6	.819

Source: Survey Data (2020)

#### **4.3.2 Instrument Validity**

To check for validity, factor analysis was conducted to confirm the predetermined constructs under each variable as well as to reduce the factors in the questionnaire as necessary. The conditions to be met in this regard included KMO (>.5) and Bartlett's tests (<0.05), Eigen values (>1.0) and factor loadings (>0.4). CFA is also employed to stipulate the hypothesized factors that ought to be included for testing the validity of relations among a set of variables through factor loadings on the data (McNabb, 2008). The following statistical outputs were generated from factor analysis: KMO measure of sampling adequacy and Bartlett's Test of sphericity, rotated component matrix, total variance explained and scree plot. As presented in Table 4.3, the study established a KMO test statistics of 0.872. According to Kaiser (1974), KMO values that are statistically greater than 0.5 are adequate. In this study then, the value of 0.872 indicates that there was sampling adequacy. Bartlett's Test of Sphericity produced a P value of 0.000 indicating that the constructs in the dataset are significantly correlated.

**Table 4.3: KMO and Bartlett's Test for Entrepreneurial Orientation**

<b>KMO and Bartlett's Test</b>	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.872
Bartlett's Test of Sphericity	Approx. Chi-Square
	Df
	Sig.
	5310.251
	153
	0.000

Source: Survey Data (2020)

The Principal Component Analysis (PCA) technique was used to determine the initial solution. This involved two levels, an unrotated solution and a rotated solution. This method was considered desirable since it permitted the dataset reduction to a more controllable size at the same time maintaining a lot of the original information. A total of 18 components were established as Table 4.4 shows. Out of the 18 components, 69.746 percent of the variations were explained by 3 components, while 15 components explained 30.254 percent of the variations. The study used the Kaiser's criterion to seek variables equal to 1 or greater than 1 eigen values. A 49.841 percent of the variations were accounted by component 1, while 11.772 percent of the variations were explained by component 2 and component 3 accounted for 8.133 percent of the variations. As such, from the combined data set, a maximum of 3 components were extracted based on the total variance.

**Table 4.4: Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
	1	8.971	49.841	49.841	8.971	49.841	49.841
2	2.119	11.772	61.614	2.119	11.772	61.614	3.682
3	1.464	8.133	69.746	1.464	8.133	69.746	2.719
4	.998	5.544	75.292				
5	.855	4.749	80.041				
6	.810	4.498	84.538				
7	.567	3.149	87.688				
8	.434	2.409	90.097				
9	.377	2.095	92.192				
10	.324	1.801	93.993				
11	.240	1.333	95.326				
12	.207	1.152	96.478				
13	.180	1.001	97.479				
14	.119	.662	98.141				
15	.108	.602	98.743				
16	.093	.516	99.259				
17	.085	.474	99.733				
18	.048	.267	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Source: Survey Data (2020)

As observed by Nunny and Berstein (1994), the Kaiser criterion presents a weakness in its propensity to exaggerate the number of factors. To address this weakness, a scree plot was proposed by Stevens (2002) to assess the number of statements to be maintained. The eigenvalues are graphed on a scree plot against the number of component and a point of inflexion is displayed on the curve. This is then used to determine the number of components to be extracted. The components in a scree plot before this, point to the amount of factors to maintain while after the point of

inflexion, the components show that smaller and smaller amounts account for each consecutive factor hence ought not to be maintained.

The plot according to Norusis (2003), most often illustrates a distinctive discontinuity between the large factors at the vertical slope and the other factors at the steady trailing off, which forms at the base. Norusis (2003) notes that one should only use factors before the beginning of the scree. In the present findings, only the first three (3) components come before the point of inflexion at the scree plot in Figure 4.1 in Appendix IV. As such, only three (3) descriptors were considered adequate in the combined data set.

As presented in Table 4.5, three (3) components were extracted from the combined data from the unrotated component matrix, with all items loading across all the three (3) components. All the eighteen (18) items had loading of greater than 0.4 on at least one of the three (3) components extracted. This implied that all the constructs were important in measuring entrepreneurial orientation.

The study established a 3-component structure as is depicted in Table 4.5, determined from an Oblimin method with Kaiser Normalization rotation. Oblimin method was preferred owing to an anticipated correlation among the items making up the components. A total of 18 items were loaded across the 3 components. Each of the 3 components loaded 6 items. A majority of items under component 1 relate to the use of technology, innovations and ideas and can therefore be labelled as *Innovativeness* while items under Component 2 on the other hand relate to risky undertakings and can thus be conceptualized as *Risk Propensity*. Component 3 contains items that largely point at actively seeking out opportunities and can thus be labelled as *Proactiveness*

**Table 4.5: Rotated Component Matrix<sup>a</sup>**

	Component		
	1	2	3
I emphasize on utilizing new technology in our business	.866		
I actively introduce innovations and improvements in our business	.928		
Changes in our product lines have been quite fast	.522		
I inspire employees to behave and think in distinctive and original ways	.838		
I emphasize on research and development in our business	.859		
When learning new things, I desire to try my own inimitable way as opposed to doing it however everybody else does	.699		
With new ideas, I am strongly inclined to take informed risks		.847	
I am strongly inclined toward high-risk business ideas		.439	
I tend to take brave action by engaging in the unknown		.946	
Where risk is involved, I am inclined to act confidently		.771	
I am ready to put in a lot of money and/or time on a venture that could result in a high return		.875	
In our business, the term “risk-taker” is regarded a positive quality for staffs		.512	
I act in anticipation of future business needs			.651
I typically initiate actions in my business that rivals react to			.646
I consistently seek out new services/products			.576
I consistently monitor trends in the market and identify prospective customer needs			.685
I prefer planning beforehand on projects			.925
I tend to rise to the occasion and be hands-on in projects rather than sitting and waiting for things to be done by someone else			.916

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Source: Survey Data (2020)

As presented in Table 4.6, the study established a KMO test statistics of 0.664 which is greater than the recommended threshold of 0.5 (Kaiser, 1974). As such, the results further indicate that there was sampling adequacy. Bartlett's Test of Sphericity produced a P value of 0.000 indicating that the constructs under Firm Strategic Capabilities in the dataset are significantly correlated.



**Table 4.6 KMO and Bartlett's Test for Firm Strategic Capabilities**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.664
Bartlett's Test of Sphericity	Approx. Chi-Square	2659.837
	Df	66
	Sig.	0.000

Source: Survey Data (2020)

A total of 12 components were established as Table 4.7 shows. Out of the 12 components, 62.275 percent of the variations were explained by 2 components, while 10 components explained 37.725 percent of the variations. The study used the Kaiser's criterion to seek variables equal to 1 or greater than 1 eigenvalues. A total of 37.733 percent of the variations were accounted by component 1, while 24.542 percent of the variations were explained by component 2. As such, from the combined data set, a maximum of 2 components were extracted based on the total variance.

**Table 4.7: Total Variance Explained for Firm Strategic Capabilities**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
	1	4.528	37.733	37.733	4.528	37.733	37.733
2	2.945	24.542	62.275	2.945	24.542	62.275	2.954
3	.996	8.3	70.575				
4	.917	7.642	78.217				
5	.867	7.221	85.438				
6	.509	4.242	89.685				
7	.480	4.001	93.685				
8	.298	2.485	96.171				
9	.204	1.697	97.868				
10	.123	1.025	98.893				
11	.069	.573	99.467				
12	.064	.533	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Source: Survey Data (2020)

As presented in Figure 4.2 in Appendix IV, only the first 2 components come before the point of inflexion at the scree plot. As such, only 2 descriptors were considered

adequate in the combined data set. The study established a 2-component structure as is depicted in Table 4.8, determined from an Oblimin method with Kaiser Normalization rotation. The 12 original items loaded on the 2 components. Six items loaded on component one while component two also had 6 factor loadings. Component 1 contains items that relate to financial, technological and human resources which can be labelled as *Firm Resources*. Component 2 on the other hand contains items that relate to market research and opportunities and can thus be termed as *Market Orientation*.

**Table 4.8: Rotated Component Matrix<sup>a</sup>**

	Component	
	1	2
Our business has sufficient equipment for execution of our business goals	.489	
Our business has sufficient financial endowment to fund our business goals	.874	
Our business has sufficient cash flow to fund our enterprise activities	.900	
Our business has sufficient technological endowment to run activities in our business	.761	
Our staffs have the appropriate knowledge to carry out their jobs	.977	
Our business frequently conducts training	.970	
Our business has a good image/reputation		.723
Our business has an excellent customer service reputation		-.858
We carry out adequate market research in the business		.863
Employees interact directly and freely with our customers with a view to determine how to better serve their needs		.905
We anticipate new business opportunities and shifts in our industry		.951
We slowly detect changes in customer preferences		.883

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Source: Survey Data (2020)

As presented in Table 4.9, the study established a KMO test statistics of 0.762 which is greater than the recommended threshold of 0.5 (Kaiser, 1974). As such, the results further indicate that there was sampling adequacy. Bartlett's Test of Sphericity produced a P value of 0.000 indicating that the constructs under Environmental Factors in the dataset are significantly correlated.

**Table 4.9: KMO and Bartlett's Test for Environmental Factors**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.762
Bartlett's Test of Sphericity	Approx. Chi-Square	1351.9
	Df	44
	Sig.	0.000

Source: Survey Data (2020)

A total of 14 components were established as Table 4.10 shows. Out of the 14 components, 76.414 percent of the variations were explained by 3 components, while 11 components explained 23.586 percent of the variations. The study used the Kaiser's criterion to seek variables equal to 1 or greater than 1 eigenvalues. A total of 41.964 percent of the variations were accounted by component 1, 20.479 percent of the variations were explained by component 2 while 13.971 percent of the variations were explained by component 3. As such, from the combined data set, a maximum of 2 components were extracted based on the total variance.

**Table 4.10: Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
	1	5.875	41.964	41.964	5.875	41.964	41.964
2	2.867	20.479	62.443	3.867	27.621	69.585	3.767
3	1.956	13.971	76.414	1.956	13.971	76.414	1.966
4	.816	5.829	82.243				
5	.701	5.007	87.250				
6	.591	4.221	91.471				
7	.424	3.026	94.499				
8	.301	2.151	96.649				
9	.240	1.715	98.365				
10	.142	1.017	99.382				
11	.087	.618	100.000				
12	-	-	-				
	2.220E-16	-1.586E-15	100.000				
13	-	-	-				
	3.826E-16	-2.733E-15	100.000				
14	-	-	-				
	8.057E-16	-5.755E-15	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Source: Survey Data (2020)

As presented in Figure 4.3 in Appendix IV, only the first 3 components come before the point of inflexion. As such, only 3 descriptors were considered adequate in the combined data set. The study established a 3-component structure as is depicted in Table 4.11, determined from the Oblimin method with Kaiser Normalization rotation. Oblimin method was preferred owing to an anticipated correlation among the items making up the components. A total of 14 items loaded on 3 components. Four items loaded on components 1 and while 5 items loaded on both components 2 and 3. Component 1 contains items that relate to which can be conceptualized as *Policy Environment* while Component 2 can be labelled as *Business Support Services* as it

contains items that speak to government initiatives to support business. Component 3 entails items that relate to strategies aimed at staying ahead of competition and can thus be labelled as *Competition*.

**Table 4.11: Rotated Component Matrix<sup>a</sup>**

	Component		
	1	2	3
Business licensing requirements are minimized	.929		
Health and safety regulations are business-friendly	.970		
Our business has benefitted from at least one government fund: Women Enterprise Fund, Uwezo fund, Local Authority Transfer Fund, Youth Enterprise Development Fund and Constituency Development Fund	.797		
Our business has benefitted from special tax exemptions	.939		
Our business has benefitted from investment promotion incentives		.991	
Our business has benefitted from export promotion incentives		.991	
Our business has benefitted from government initiated training		.995	
Our business has benefitted from improved access to appropriate information and technology courtesy of government		.995	
Our business has benefitted from improved access to markets		.995	
Our industry requires that we invest adequately in innovation in order to design and develop products aimed at the worldwide market			.784
Our industry requires that we constantly improve our marketing methods to stay ahead of competition			.968
Our industry requires that we constantly improve our organizational methods/ systems to stay ahead of competition			.964
Our industry requires that we constantly improve our product process to stay ahead of competition			.923
We slowly detect changes in customer preferences			.896

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 4 iterations.

As presented in Table 4.12, the study established a KMO test statistics of 0.614 for MSME growth, which is greater than the recommended threshold of 0.5 (Kaiser, 1974). As such, the results further indicate that there was sampling adequacy.

Bartlett's Test of Sphericity produced a P value of 0.000 indicating that the constructs under MSME growth in the dataset are significantly correlated.

**Table 4.12: KMO and Bartlett's Test for MSME Growth**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.614
Bartlett's Test of Sphericity	Approx. Chi-Square	148.397
	Df	15
	Sig.	0.000

Source: Survey Data (2020)

A total of 6 components were established as Table 4.13 shows. Out of the 6 components, 52.231 percent of the variations were explained by 2 components, while 4 components explained 47.769 percent of the variations. The study used the Kaiser's criterion to seek variables equal to 1 or greater than 1 eigenvalues. A total of 29.164 percent of the variations were accounted by component 1, while 23.067 percent of the variations were explained by component 2.

**Table 4.13: Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	1.750	29.164	29.164	1.750	29.164	29.164	1.591
2	1.384	23.067	52.231	1.384	23.067	52.231	1.573
3	.847	14.118	66.349				
4	.720	11.997	78.346				
5	.710	11.830	90.177				
6	.589	9.823	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Source: Survey Data (2020)

Foregoing results in Table 4.13 implies that from the combined data set, a maximum of 2 components would ideally be extracted based on the total variance. However, the construct validity test using factor analysis for MSME growth was complemented by content validity test by expert opinion from thesis supervisors, and a determination was made to retain all six components in the analysis as each distinctly measured a particular construct. This is confirmed by the scree plot (Appendix IV), which shows six distinct points of inflexion. Further, a fixed extraction of 6 factors shows that factors were loaded across all six components as shown in Table 4.14, with each factor distinctly loading on a particular component.

**Table 4.14: Rotated Component Matrix<sup>a</sup>**

	Component					
	1	2	3	4	5	6
Our total sales have grown in the last 3 years			.718			
Our net profit has grown in the last 3 years				.439		
Our number of employees has grown in the last 3 years	.684					
Our value of assets has grown in the last 3 years					.654	
Our market share has grown in the last 3 years						.516
Our production capacity has grown in the last 3 years		.533				

Extraction Method: Principal Component Analysis.

a. 6 components extracted.

#### 4.3.3 Analysis of Missing Values

The study performed the Missing Value Analysis (MVA) with a view to check for any missing data pattern as well as the respective magnitude of the missing values. The

operation was modeled to underscore pattern of missing values and to replace them in the data set. The subsequent univariate statistics computation presented in Appendix IV revealed no missing values.

#### **4.3.4 Test for Outliers**

An outlier is expressed as a point of data which distances itself from the model while the rest do fall within the range and seems distant from the remaining data (Collis & Hussey, 2009). The data was analyzed to detect the presence of multivariate outliers following the guidelines by Ary *et al.* (2010) and Collis and Hussey (2009). The multivariate outliers were detected using Mahalanobis distance ( $D^2$ ). A case is found to be an outlier if the probability associated with its ( $D^2$ ) is 0.001 or less (Collis and Hussey (2009). In this study, no outlier was detected as all statements had probabilities associated with their ( $D^2$ ) as above 0.001. The SPSS output to this effect is illustrated in Appendix III.

#### **4.3.5 Test for Normality**

Normality was in this study determined numerically through statistical tests particularly the Shapiro-Wilk test. According to Collis and Hussey (2009), Shapiro-Wilk test is more appropriate for small sizes of less than 50 but can also handle sample sizes as large as two thousand while for sample sizes greater than 2000, Kolmogorov-Smirnov is more preferable. In accordance with Collis and Hussey (2009) and Ary *et al.* (2010), normality in Shapiro-Wilk test is shown by values larger than 0.05.



**Table 4.15: Test for Normality**

	<b>Statistic</b>	<b>Shapiro-Wilk df</b>	<b>Sig.</b>
EO	.929	312	.335
Firm Strategic Capabilities	.989	312	.528
Environmental Factors	.933	312	.340
MSME Growth	.874	312	.081

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The results presented in Table 4.15 indicated that data were normally distributed for all scales since all Shapiro-wilk statistics had Statistical significance values above the acceptable threshold of 0.05 (Tashakkori & Teddlie, 2008). A normality test tests formally if the population represented by the sample is distributed normally. The null hypothesis postulates that there is normal distributed in the population, while the alternative hypothesis states that the population is not normally distributed. The null hypothesis is then accepted if the predefined significance level is less than the p-value. The null hypothesis that the data are normally distributed was therefore accepted, hence the conclusion that the data is normally distributed.

#### 4.3.6 Multicollinearity Diagnostics

Multicollinearity is found when one or more pairs of independent variables are correlated highly as indicated by the correlation coefficients and has a value of 9.0 and above (Creswell, 2013). The study utilized the centering of independent variables prior to computing interaction terms to counter Multicollinearity. The results of multicollinearity tests are presented in Table 4.16.

**Table 4.16 Multicollinearity Diagnostics**

<b>Model</b>	<b>Collinearity Statistics</b>	
	<b>Tolerance</b>	<b>VIF</b>
EO	.575	1.740
Firm Strategic Capabilities	.351	2.847
Environmental Factors	.167	5.974

Source: Survey Data (2020)

As Table 4.16 presents, the Variance Inflation Factor (VIF) was used to test for multicollinearity, which revealed acceptable values which were all within the set values of -10 to 10. To further confirm that there was no Multicollinearity, tolerance values were checked and it was established that they were all above 0.1 which is the accepted standard in line with Creswell (2013).

#### 4.3.7 Homogeneity of Variances

Levene statistic was used to test for homogeneity of variance. Levene's test verified the samples' equivalence of variance, against the acceptable verge of ( $p > .05$ ) as prescribed by Collis and Hussey (2009),. The result if the test for equality of variance of error terms are presented in Table 4.17.

**Table 4.17: Tests for Test of Homogeneity of Variances**

<b>Variable</b>	<b>Levene Statistic</b>	<b>Sig.</b>
EO	.896	.601
Firm Strategic Capabilities	1.265	.209
Environmental Factors	1.477	.073
MSME growth		.

*Source: Survey Data (2020)*

As is depicted in Table 4.17, P-values greater than 0.05 were recorded in the study, revealing homogeneity of variance. The Levene's test thus showed no significance at  $\alpha = 0.05$ . The null hypothesis that there are equal variances in the data was therefore accepted hence the conclusion that there is homogeneity of variance in the data.

#### 4.4 Demographic Information

In this section, the participants' demographics are explored. These include responses by participant age, participant gender, managerial position, highest level of education attained as well as the number of years in operation. The results are found in Table 4.18.

**Table 4.18: Demographic Information**

<b>Length of Ownership/Management</b>	<b>Frequency</b>	<b>Percent</b>
3-6 years	60	19.2
7-10 years	118	37.8
Over 10 years	134	42.9
<b>Total</b>	<b>312</b>	<b>100.0</b>

<b>Length of Business Operation</b>	<b>Frequency</b>	<b>Percent</b>
3-6 years	47	15.1
7-10 years	114	36.5
Over 10 years	151	48.4
<b>Total</b>	<b>312</b>	<b>100.0</b>

<b>Number of Employees</b>	<b>Frequency</b>	<b>Percent</b>
Less than 10	126	40.4
10-49	108	34.6
50-100	78	25.0
<b>Total</b>	<b>312</b>	<b>100.0</b>

<b>Line of Manufacturing</b>	<b>Frequency</b>	<b>Percent</b>
Textile & Apparels (Clothing fibers: silk, wool, linen, cotton)	23	7.4
Food and Beverage (Flour, drink products, candy, food additives)	12	3.8
Leather (Shoe, garment and furniture materials)	32	10.3
Timber (Furniture products: Chipboards, plywood)	36	11.5
Paper and board (printing papers, packaging material)	32	10.3
Agriculture (Herbicides, pesticides)	7	2.2
Automotive (Spare parts)	6	1.9
Iron & Steel (Stainless steel, wire rods, alloy steel)	39	12.5
Chemicals & Pharmaceutical (Lab products, curative drugs)	4	1.3
Canvas (Tents and allied)	18	5.8
Construction Materials (Structural bars, glass, metal sheets)	26	8.3
Ceramics (Pottery products, tiles)	8	2.6
Compressed gas cylinders	2	.6
Plastics (Water tanks, packaging bottles, utensils)	28	9.0
Beauty Products (Hair products, body lotions and oils)	10	3.2
Paints (Wall paints, car paints, steel paints)	6	1.9
Rubber Products (silicone rubber, conveyor belts, erasers, tubes)	23	7.4
<b>Total</b>	<b>312</b>	<b>100.0</b>

*Source: Survey Data (2020)*

The results in Table 4.18 imply that that a majority of respondents (42.9%) had either owned or managed their respective MSMEs for over 10 years, followed by 37.8% having either owned or managed their establishments for between 7 and 10 years. Only 19.2% affirmed to between 3 and 6 years. The finding indicates that a majority

of respondents reached had over 7 years of experience either owning or managing their respective MSMEs, and would therefore have rich perspectives on their respective entrepreneurial orientation as well as their respective business growth.

A majority of respondents further indicated their respective MSMEs had been in operation for over 10 years (48.4%), followed by 36.5% having been in operation for between 7 and 10 years while only 15.1% affirmed to having operated for between 3 and 6 years. Accordingly, the finding indicates that a majority of MSMEs reached had been in operation for over 7 years therefore adequately experienced either growth or lack thereof. The period is also deemed relatively long enough for a deduction of whether and how the established growth patterns or lack thereof can be attributed to the respective MSME owners'/managers' entrepreneurial orientation, firm strategic capabilities and environmental factors or interaction of the same.

The study further established that a majority of MSMEs reached had an employee population of less than 10 (40.4%), followed by 34.6% of the MSMEs having between 10 and 49 employees, while 25.0% had a staff capacity of between 50 and 100. It is inferred from the finding that the study reached the entirety of MSMEs, with a majority being Micro, followed by small, then medium enterprises. The full scope of MSMEs in the study area can thus be deemed represented in this study.

The study further sought to establish the various sub-sectors in the manufacturing industry, the MSMEs reached engaged in. To this end, a total of 17 sub-sectors were established, including Iron and Steel (12.5%), Timber (11.5%), Plastics (9.0%), Leather (10.3%), Paper and Board (10.3%), Construction Materials (8.3%) and Rubber Products (7.4%). Others included manufacturers of Compressed Gas Cylinders (0.6%), Chemicals and Pharmaceuticals (1.3%), Automotive (1.9%) and

Paints (1.9%). The finding implies that a diversity of sub-sectors within the manufacturing industry was reached and therefore findings have implications for MSMEs across the manufacturing sector spectrum.

#### 4.5 Descriptive Statistics for MSME Growth

In this study, MSME growth was measured by change in total sales, net profit, number of employees, value of assets, market share and production capacity in the last 3 years as at the time of study. The mean, standard deviation, t-test and coefficients of variation (CV) were assessed. The same measure has been successfully used in previous related study including by Neneh and Zyl (2017), Davis *et al.* (2007), Haltiwanger *et al.* (2013) and Yamoah (2016). Results are as depicted in Table 4.19.

**Table 4.19: Descriptive Statistics for MSME Growth**

	<b>Mean</b>	<b>Std. Dev</b>	<b>t</b>	<b>CV</b>
Our total sales have grown in the last 3 years	3.872	1.019	67.12	26.3
Our net profit has grown in the last 3 years	2.449	0.870	49.74	35.5
Our number of employees has grown in the last 3 years	3.936	0.993	70.01	25.2
Our value of assets has grown in the last 3 years	4.247	0.786	95.47	18.5
Our market share has grown in the last 3 years	3.183	0.580	96.94	18.2
Production capacity has grown in the last 3 years	4.167	0.881	83.55	21.1
<b>Composite</b>	<b>3.642</b>	<b>0.855</b>	<b>77.14</b>	<b>24.1</b>

*Source: Survey Data (2020)*

Findings presented in Table 4.19 reveal that on average, a majority of MSMEs recorded growth in the last 3 years to a great extent (3.642), based on sales, net profit, number of employees, value of assets, market share and production capacity. More specifically, growth was reported to a great extent in value of assets (4.247), production capacity (4.167), number of employees (3.936) and total sales (3.872); to a moderate extent in market share (3.183); and to a low extent in net profit (2.449).

Results indicate that a majority of MSMEs recorded growth in the last 3 years to a great extent (3.642), based on sales, net profit, number of employees, value of assets,

market share and production capacity. This is indicative of MSME growth, and therefore the finding is contrary to expectation, as reported by KAM (2020), Kepsa (2019) and AFDB (2020). The disparity may be attributed to a number of factors, including the localization of the study to Nairobi County vis-a-vis the entire country as is the case in the reports, the limited sample size vis-a-vis the entire population in the country, the focus on the manufacturing sector, among others.

#### **4.6 Status of Entrepreneurial Orientation**

In the presented study, owner/manager entrepreneurial orientation was operationalized by three measures established following a confirmatory factors analysis, including innovativeness, proactiveness and risk propensity. A similar approach was successfully used in previous studies including Stetz *et al.* (2000) and Lyon *et al.* (2001). As such, this section breaks down the descriptive analysis of the composite variable entrepreneurial orientation, into the descriptive statistics for innovativeness, proactiveness and risk propensity.

##### **4.6.1 Status of Innovativeness**

According to Dess and Lumpkin (2005), innovativeness spans from a readiness to try new services or products, to consistency moving beyond the status quo to be at the cutting edge of practice. Accordingly, MSME owners/managers were asked to show their respective agreement levels with a range of pertinent statements defining innovativeness. This was on a 5-point Likert scale, from the strongest affirmation '5' to the greatest dissent '1'. Results are shown in Table 4.20.

**Table 4.20: Descriptive Statistics for Innovativeness**

	<b>Mean</b>	<b>Std. Dev</b>	<b>t</b>	<b>CV</b>
I emphasize on utilizing new technology in our business	4.131	.452	161.36	10.9
I actively introduce innovations in our business	4.183	.387	190.89	9.3
Changes in our product lines have been quite fast	4.125	.584	124.73	14.2
I inspire employees to think in distinctive and original ways	4.147	.444	165.12	10.7
I emphasize on research and development in our business	4.199	.431	172.21	10.3
I desire to try my own inimitable way	4.196	.491	150.83	11.7
<b>Composite</b>	<b>4.164</b>	<b>.465</b>	<b>160.86</b>	<b>11.2</b>

*Source: Survey Data (2020)*

As is depicted in Table 4.20, a majority of respondents were found to highly agree with innovativeness as their entrepreneurial attribute ( $\bar{X}=4.164$ ). A majority particularly highly affirmed that that they emphasize on research and development in their business ( $\bar{X}=4.199$ ;  $SD=.431$ ); they desire to try their own inimitable way as opposed to doing it however everybody else does ( $\bar{X}=4.196$ ;  $SD=.491$ ); actively introduce improvements and innovations in their business ( $\bar{X}=4.183$ ;  $SD=.387$ ); and that they inspire employees to behave and think in distinctive and original ways ( $\bar{X}=4.148$ ;  $SD=.444$ ).

A majority of respondents were found to highly agree with innovativeness as their entrepreneurial attribute ( $\bar{X}=4.164$ ). The finding is of the implication that a majority of MSME owners/managers reached are highly innovative. It is particularly notable that most owners/managers employ research and development and actively introduce improvements and innovations in their establishments. Innovativeness is especially essential for MSMEs in Kenya with a view to counter the various challenges, both internal and external, that hinder growth. These include inadequate capital, limited access to credit and market, poor infrastructure, rapid changes in technology as well

as an unfavourable regulatory environment. Nurturing an innovative culture enables MSME owners/managers develop ideas and strategies to acquire capital, take full advantage of fast-paced technological changes and maneuver through markets which effectively overcomes these challenges and leads to not only improved productivity and increased chances of survival, but also growth.

The finding concurs with Walobwa, Ngugi and Chepkulei (2013) whose study on type of innovation and SME growth in Kenya with reference to garment enterprises in Jericho, Nairobi found out that a majority of SME owners had presented new changes in their service technology, processes or products. The study also showed that in terms of sales, technological innovation has a direct effect on business growth. The finding is also in line with Roper (2017) who found that with successful innovation, the share of products that are innovated is likely to grow sales of the firm through removal of steps that are non-value adding from the work flow thereby affecting the whole business.

#### **4.6.2 Status of Risk Propensity**

Risk propensity is defined by Gurbuz and Aykol (2015) as the readiness to invest huge sums of resources to a venture with high likely chances and cost of failure. In order to determine owners'/managers' risk propensity, participants were required to show their respective agreement levels with statements posed. This was also on a 5-point Likert scale from the strongest affirmation '5' to the greatest dissent '1'. Results are shown in Table 4.21.



**Table 4.21: Descriptive Statistics for Risk Propensity**

	Mean	Std. Dev	t	CV
With new ideas, I am strongly inclined to take informed risks	3.907	.632	109.16	16.2
I am strongly inclined toward high-risk business ideas	4.173	.387	190.31	9.3
I tend to take brave action by engaging in the unknown	4.135	.539	135.50	13.0
Where risk is involved, I am inclined to act confidently	4.180	.432	171.03	10.3
I am ready to put in a lot of money and/or time on a venture	3.968	.577	121.39	14.6
The term “risk-taker” is regarded a positive quality for staffs	4.167	.479	153.67	11.5
<b>Composite</b>	<b>4.088</b>	<b>.508</b>	<b>146.84</b>	<b>12.4</b>

*Source: Survey Data (2020)*

As Table 4.21 presents, a majority of respondents highly affirmed to being risk taking ( $\bar{X}=4.088$ ). A majority highly agreed that they have a strong tendency for high-risk business ideas ( $\bar{X}=4.191$ ;  $SD=.311$ ); where risk is involved, they are inclined to act confidently ( $\bar{X}=4.180$ ;  $SD=.432$ ); they term “risk-taker” is regarded a positive quality for staffs in their business ( $\bar{X}=4.173$ ;  $SD=.387$ ); and that they tend to take brave action by engaging in the unknown ( $\bar{X}=4.135$ ;  $SD=.539$ ).

A majority of respondents highly affirmed to being risk taking ( $\bar{X}=4.088$ ). It can be deduced from the finding that a majority of MSME owners/managers reached have considerably high-risk appetite. Besides a strong tendency for high-risk business ideas, a majority of MSME where risk is involved, owners/managers are inclined to act confidently and consider the term “risk-taker” in their enterprises, as positive. High risk appetite is essential among MSMEs as it can encourage the innovation of an enterprise, enhance the enterprises competitive advantage and create new rules. Risk-taking also enables MSME owners/managers an organizational atmosphere of risk and tolerance which presents opportunities to try new ways of production, marketing, sales and customer service which ultimately leads to improvements in efficiency and profit margins among other positive organizational outcomes.

Accordingly, Le Roux and Bengesi (2014) avers that taking risk is a characteristic part of founding a business venture, therefore entrepreneurs subject themselves to the costs linked with lack of success, the alternate state of affairs offering less severe costs and less reward in comparison with the proposed state of affairs. In agreement with this study findings, Neneh (2016) noted that calculated risks normally taken by entrepreneurs, ensuring that the chances are in their favour and therefore put in place such strategies as partnering with suppliers, business investors and partners to bear and share their inherent business and financial risk. Hughes and Morgan (2017) also explained that risk-averse firms record poorer growth since they are unwilling to take advantage of opportunities in the market.

#### **4.6.3 Status of Proactiveness**

Venkatraman (1989) defined proactiveness entails the processes that are aimed at pursuing new opportunities that may not or may be linked to the present core operations, introducing new brands and products ahead of rivals and strategically removing operations that are at the declining or maturing life cycle stages. To find out owners'/managers' levels of proactiveness, participants were required to show their respective agreement levels with statements posed. This was also on a 5-point Likert scale from the strongest affirmation '5' to the greatest dissent '1'. Results are portrayed in Table 4.22.

**Table 4.22: Descriptive Statistics for Proactiveness**

	<b>Mean</b>	<b>Std. Dev</b>	<b>t</b>	<b>CV</b>
I act in anticipation of future business needs	4.340	.605	126.62	14.0
I typically initiate actions in my business that rivals react to	4.186	.406	182.19	9.7
I consistently seek out new services/products	4.164	.490	150.09	11.8
I consistently monitor trends in the market	4.176	.465	158.57	11.1
I prefer planning beforehand on projects	4.151	.555	132.01	13.4
I tend to rise to the occasion and be hands-on in projects	4.196	.576	128.73	13.7
<b>Composite</b>	<b>4.202</b>	<b>.516</b>	<b>146.37</b>	<b>12.3</b>

Results as depicted in Table 4.22 indicate that a majority of respondents highly affirm to being proactive ( $\bar{X}=4.202$ ). More specifically, a majority highly agreed that they act in anticipation of future business needs ( $\bar{X}=4.340$ ;  $SD=.605$ ); they tend to rise to the occasion and be hands-on in projects rather than sitting and waiting for things to be done by someone else ( $\bar{X}=4.20$ ;  $SD=.5756$ ); they typically initiate actions in my business that rivals react to ( $\bar{X}=4.186$ ;  $SD=.406$ ); they consistently monitor trends in the market and recognize future customer needs ( $\bar{X}=4.177$ ;  $SD=.465$ ); and that they tend to plan ahead on projects ( $\bar{X}=4.151$ ;  $SD=.555$ ).

A majority of respondents highly affirm to being proactive ( $\bar{X}=4.202$ ). Based on the results, it is implied that a majority of MSME owners/managers reached are proactive in nature. Most owners/managers are particularly found to cultivate a culture of continuously monitoring market trends with a view to anticipate future business needs as well as a tendency to initiate actions in their respective businesses that rivals react to. Proactivity is essential in growth oriented MSMEs as it enables owners/managers take advantage of prospects in the market before rivals and take the lead in premiering new services and products. Also, in order in order to gain competitive advantage, proactive MSME owner/managers are inclined to find new prospects in the market

more easily, initiate quick action on the prospects and deliver innovative outcomes to their businesses.

The finding is in line with Dobbs and Hamilton (2017) who found that proactive firms also exploit and identify prospects to meet demand, probably by adopting extant practices, products, or services; through their own innovation; or venturing into new markets with extant services or products. Similarly, Hughes and Morgan (2017) observed that proactiveness is a crucial element at firm growth's early stages which enables it to ensure long term success and guarantee a position in the market place. Proactive firms quickly respond to market signals as generally have a greater grasp of market dynamics.

#### **4.7 Extent of Firm Strategic Capabilities**

Firm Strategic Capabilities has been conceptualized in this study as both mediating the direct association between EO and MSME growth as well as having a direct effect on MSME growth. As such, the study sought to analyze the various aspects defining firm strategic capabilities descriptively with a view to establish their level of manifestation among MSMEs reached. Two sub-constructs were used in this regard, including firm resources and market orientation which have been successfully used in previous related studies including by Fonger (2017), Parida (2018), Chen *et al.* (2018) and Kraa (2019).

##### **4.7.1 Status of Firm Resources**

Firm resources have been defined in this study as comprising both tangible and intangible capital owned by MSMEs including equipment, funds, technology, knowledge as well as trained human staff (Hill & Jones, 2014; Srivastava, 2013). To determine the level of MSMEs' firm resource endowment, participants were required

to show their respective agreement levels with statements posed. This was also on a 5-point Likert scale from the strongest affirmation '5' to the greatest dissent '1'. Results are as depicted in Table 4.23.

**Table 4.23 Descriptive Statistics for Firm Resources**

	Mean	Std. Dev	t	CV
We have sufficient equipment for execution of business goals	4.022	1.047	67.87	26.0
We have sufficient financial endowment to fund our goals	3.215	1.115	50.93	34.7
We have sufficient cash flow to fund our enterprise activities	3.324	1.055	55.64	31.7
We have sufficient technological endowment to run activities	3.539	1.014	61.66	28.6
We have the appropriate knowledge to carry out their jobs	4.667	0.472	174.58	10.1
We frequently conduct training	4.673	0.470	175.68	10.1
<b>Composite</b>	<b>3.907</b>	<b>0.862</b>	<b>97.73</b>	<b>23.5</b>

*Source: Survey Data (2020)*

As tabulated (Table 4.23), it was established that a majority of respondent MSMEs moderately to highly affirm to firm resource endowment ( $\bar{X}=3.907$ ). A majority were particularly in high agreement that their businesses carry out training frequently ( $\bar{X}=4.673$ ;  $SD=.470$ ); their employees have the suitable education to fulfill their jobs ( $\bar{X}=4.667$ ;  $SD=.472$ ); their businesses have adequate equipment to enable us execute their business goals ( $\bar{X}=4.022$ ;  $SD=1.047$ ); and that their businesses have adequate technological resources to finance their business activities ( $\bar{X}=3.539$ ;  $SD=1.014$ ). A majority however only moderately agreed that their businesses have adequate cash flow to finance their business activities ( $\bar{X}=3.324$ ;  $SD=1.055$ ); and that their businesses have adequate financial resource to finance their business goals ( $\bar{X}=3.215$ ;  $SD=1.115$ ).

A majority of respondent MSMEs moderately to highly affirm to firm resource endowment ( $\bar{X}=3.907$ ). It can be deduced from the finding that whereas most MSMEs

are well endowed with skilled employees and carry out on-the-job trainings frequently, a majority are constrained with respect to finance, cash flow, technology and equipment. This can be attributed to the difficulties with which most MSMEs raise or access financial capital in comparison to large firms. This owes to many financial institutions particularly commercial banks preferring to apportion their resources to large businesses owing to clear financial statements and the lower defaulting risk, both of which most MSMEs lack resulting in financial and consequently technical resource constraints. In instances where credit is available to MSMEs, the high interest rates charged are prohibitive and unaffordable to most MSMEs.

The finding concurs with Kithusi (2015) who found that the source of capital for most of the businesses was from individual finances which was limited, with 92% affirming that they had leveraged their personal savings to establish the business. Likewise, Miyandazi (2013) found that skills transfer is frequent among MSMEs and is done mainly through on-the-job training and apprenticeship. Similarly, Ongeti (2014) found that access to funds was a key challenge and determinant of firm performance among SMEs. SMEs' financial status can be improved through access to bank loans which in turn leads to a decrease in the cost of finance which includes legal fees, loan insurance premium, application fees, and higher interest rates.

#### **4.7.2 Status of Market Orientation**

The study takes the definition of market orientation by Desphande and Farley (2004) who define the concept as a group of cross-functional processes and activities drawn from the attention to customers' satisfaction through their needs' continuous evaluation. In order to determine the level of market orientation among the MSMEs,

participants were required to show their respective agreement levels with statements posed. This was also on a 5-point Likert scale from the strongest affirmation '5' to the greatest dissent '1'. Results are as depicted in Table 4.24.

**Table 4.24 Descriptive Statistics for Market Orientation**

	<b>Mean</b>	<b>Std. Dev</b>	<b>t</b>	<b>CV</b>
Our business has a good image/reputation	4.647	0.536	153.27	11.5
Our business has an excellent customer service reputation	4.593	0.548	148.12	11.9
We carry out adequate market research in the business	4.558	0.516	155.87	11.3
Employees interact directly and freely with our customers	4.551	0.517	155.45	11.4
We anticipate new business opportunities and shifts	4.545	0.518	155.05	11.4
We slowly detect changes in customer preferences	4.571	0.496	162.83	10.8
<b>Composite</b>	<b>4.577</b>	<b>0.522</b>	<b>155.10</b>	<b>11.4</b>

*Source: Survey Data (2020)*

From Table 4.24, a majority of respondents highly affirmed to market orientation ( $\bar{X}=4.577$ ). A majority specifically highly agreed that their businesses have a good image/reputation ( $\bar{X}=4.647$ ;  $SD=.548$ ); their businesses have an excellent customer service reputation ( $\bar{X}=4.593$ ;  $SD=1.115$ ); that they slowly detect changes in customer preferences ( $\bar{X}=4.571$ ;  $SD=.496$ ); they carry out adequate market research in the business ( $\bar{X}=4.558$ ;  $SD=.516$ ); Employees interact directly and freely with our customers with a view to determine how to better serve their needs ( $\bar{X}=4.551$ ;  $SD=.517$ ); and that they anticipate new business opportunities and shifts in our industry ( $\bar{X}=4.545$ ;  $SD=.518$ ).

A majority of respondents highly affirmed to market orientation ( $\bar{X}=4.577$ ). The finding is of the implication that a majority of MSMEs reached align their strategies towards realizing increased access to markets in order to create superior value for their customers and superior performance for their enterprises by focusing on customer needs. It is particularly notable that most MSMEs maintain a good image and customer service reputation; and that they carry out market research with a view

to learn and appreciate customer demands and preferences and identify new business opportunities. Market orientation is very important to MSMEs in view of intense global competition and fluctuations in consumer needs. In order to survive and eventually grow, MSMEs are forced to organize their strategies, operations and activities with a strong focus on their markets.

The finding concurs with Pelham (2016) who observed that small firms that are marketing-oriented could employ market intelligence concerning future and present customer needs, the spreading of the generated information across all departments, and the feedback to the market as informed by the generated intelligence. Barrett and Weinstein (2018) also argue that a firm is deemed as market oriented if it has a full grasp of the potential and present needs of customer in addition to offering superior value to customers. Such a business entity ought to encourage systematic sharing and gathering of information. Similarly, Lopez and Iglesias (2010) found that in spite of the organization size, reputation among SMEs is considered as a strategic organizational resource as it plays a significant role.

#### **4.8 Status of Environmental Factors**

In this study, Environmental Factors has been conceptualized as moderating the relationship between EO and firm strategic capabilities; the relationship between EO and growth of MSMEs in the manufacturing sector; the relationship between firm strategic capabilities and growth of manufacturing sector MSMEs; as well as the indirect relationship between EO and growth of manufacturing sector MSMEs in Kenya. Against this backdrop, this study sought to analyze the various aspects defining Environmental Factors with a view to determine their manifestation among MSMEs reached. Three sub-constructs were identified in this regard, following a



confirmatory factor analysis, as including Policy Environment, Business Support Services and Competition which have been successfully used in previous studies including Yusoff (2020), Govori (2017), Kusumawardhani *et al.* (2019) and Kyenze (2016).

#### 4.8.1 Description of Policy Environment

Policy Environment has been taken in this study to represent the laws, regulations, and other policy mechanisms set by the government with implications to business practices and operations of MSMEs. In this regard, participants were required to show their respective agreement levels with statements posed. This was also on a 5-point Likert scale from the strongest affirmation '5' to the greatest dissent '1'. Results are as depicted in Table 4.25.

**Table 4.25 Descriptive Statistics for Policy Environment**

	Mean	Std. Dev	t	CV
Business licensing requirements are minimized	4.022	1.047	67.87	26.0
Health and safety regulations are business-friendly	3.224	1.106	50.93	34.3
Our business has benefitted from at least one government fund: Women Enterprise Fund, Uwezo fund, LATF, YEDF and CDF	3.215	1.115	50.93	34.7
Our business has benefitted from special tax exemptions	3.324	1.055	55.64	31.7
<b>Composite</b>	3.446	1.081	56.34	31.7

*Source: Survey Data (2020)*

As is depicted in Table 4.25, a majority of respondents were found to only moderately affirm to policy environment ( $\bar{X}$ =3.446). A majority highly agreed that business licensing requirements are minimized ( $\bar{X}$ =4.022;  $SD$ =1.047). A majority however only moderately affirmed that their businesses had benefitted from special tax exemptions ( $\bar{X}$ =3.324;  $SD$ =1.055); health and safety regulations are business-friendly ( $\bar{X}$ =3.224;  $SD$ =1.106); and that their businesses have benefitted from at least one government fund: Local Authority Transfer Fund (LATF), Uwezo fund, Youth

Enterprise Development Fund, Women Enterprise Fund and Constituency Development Fund (CDF) ( $\bar{X}$ =3.215; SD=1.115).

A majority of respondents were found to only moderately affirm to policy environment ( $\bar{X}$ =3.446). Based on the results, it is implied that a majority of MSME owners/managers consider the policy environment quite unfavorable. A majority are particularly dissatisfied with business licensing requirements, taxation and the awarding of government funds including Uwezo fund, Youth Enterprise Development Fund, Women Enterprise Fund and the Constituency Development Fund. MSMEs are particularly sensitive to the policy environment as they lack the resource flexibility in response to regulatory requirement which puts them at a disadvantage compared to large firms.

This is consistent with a survey by the Kenya Private Sector Alliance (KEPSA) (2019) that sought to assess, gauge, and rank the Kenyan MSME regulatory environment with regards to facilitation and growth. The survey assessed MSME policy in eight horizontal and targeted policy dimensions building upon a selected market constraint and found that the sector is less represented in formulation of key national policies, with the study giving effective representation least index score of 2.5. Policies on market linkage, supportive frameworks for business development and human capital and entrepreneurial skills development received scores of 2.8, 2.87 and 2.89 respectively, way below the study benchmark index.

#### **4.8.2 Descriptive Results for Business Support Services**

Business Support Services as used in this study entail the totality of services and activities offered by the government to support the development and growth of MSMEs in the manufacturing sector. To determine the level of this support,

participants were required to show their respective agreement levels with statements posed. This was also on a 5-point Likert scale from the strongest affirmation '5' to the greatest dissent '1'. Results are as depicted in Table 4.26.

**Table 4.26 Descriptive Statistics for Business Support Services**

	Mean	S. Dv	t	CV
Our business has benefitted from investment promotion incentives	3.406	1.097	61.66	32.2
Our business has benefitted from export promotion incentives	3.410	1.072	174.58	31.4
Our business has benefitted from government-initiated training	3.877	1.135	174.58	29.3
Our business has benefitted from improved access to appropriate IT	4.340	0.734	175.68	16.9
Our business has benefitted from improved access to markets	3.914	0.971	153.27	24.8
<b>Composite</b>	<b>3.789</b>	<b>1.002</b>	<b>147.95</b>	<b>26.9</b>

Results depicted in Table 4.26 reveal that most of respondents were found to highly affirm to business support services by the government ( $\bar{X}=3.789$ ). More particularly, most participants highly affirmed that their businesses have benefitted from improved access to appropriate information and technology courtesy of government ( $\bar{X}=4.340$ ;  $SD=.734$ ); they have has benefitted from improved access to markets ( $\bar{X}=3.914$ ;  $SD=.972$ ); and that they have benefitted from investment promotion incentives ( $\bar{X}=3.877$ ;  $SD=1.097$ ). A majority however only moderately affirmed that they have benefitted from export promotion incentives ( $\bar{X}=3.4098$ ;  $SD=1.072$ ); and that they have benefitted from government-initiated training ( $\bar{X}=3.4057$ ;  $SD=1.134$ ).

Most of respondents were found to highly affirm to business support services by the government ( $\bar{X}=3.789$ ). The finding implies that a majority of MSMEs in the country enjoy government support services largely to a moderate extent. Whereas some MSMEs have for instance benefitted from improved access to appropriate information and technology as well as improved access to markets courtesy of government, a

considerable number struggle due to lack of export promotion incentives, investment promotion incentives and to some extent government-initiated training. Government support is crucial to MSMEs in the country owing to the nature of challenges MSMEs face. Normally the challenges most felt by MSMEs are financial in nature. It is hard for them to obtain loans, for instance, as SMEs constitute a financial risk for financing institutions. Governments could assist in numerous ways, including providing collateral, creating and in support of particular loans to SMEs or grants to those which realize particular goals, like hiring additional personnel or improving productivity. The government could also favour them in their taxing policies.

Similarly, Price, Stoica and Boncella (2019) regarded infrastructure provision as a business development service and vital association between a company and its markets, which potentially can affect the firm's overall effectiveness and its revenues. Likewise, according to Karadal and Saygin (2017), infrastructures functionally facilitate the production of services and products and also facilitate finished goods' distribution to the markets, for instance, raw materials can be transported through roads to a factory. Further, Magableh and Al-Mahrouq (2017) add that SMEs should be equipped with training and technical assistance, management skills as well as entrepreneurship skills as their study demonstrates that these factors influenced the success and performance of SMEs. Furthermore, Jones (2018) observes that training assists SMEs in coping with the latest production techniques, management concepts, accounting systems, and information technology.

#### **4.8.3 Descriptive Statistics for Competition**

In this study, competition has been taken to mean the rivalry between manufacturing sector MSMEs selling similar products with the goal of achieving growth, profits, and

increased market share. As such, to determine the level of competition among MSMEs in the manufacturing sector in Kenya, participants were required to show their respective agreement levels with statements posed. This was also on a 5-point Likert scale from the strongest affirmation '5' to the greatest dissent '1'. Results are as depicted in Table 4.27.

Table 4.27 Descriptive Statistics for Competition

	Mean	S. Dv	t	CV
Our industry requires that we invest adequately in innovation in order to design and develop products aimed at the worldwide market	4.593	.548	148.12	11.9
Our industry requires that we constantly improve our marketing methods to stay ahead of competition	4.551	.517	155.45	11.4
Our industry requires that we constantly improve our organizational methods/ systems to stay ahead of competition	4.545	.518	155.05	11.4
Our industry requires that we constantly improve our product process to stay ahead of competition	4.571	.496	162.83	10.8
Our industry requires that we constantly improve our market knowledge to stay ahead of competition	4.022	1.047	67.87	26.0
<b>Composite</b>	<b>4.456</b>	<b>.625</b>	<b>137.86</b>	<b>14.3</b>

Table 4.27 shows that a majority of respondents highly affirmed to competition ( $\bar{X}=4.456$ ). More specifically, a majority highly agreed that their industry requires that they invest adequately in innovation in order to design and develop products aimed at the worldwide market ( $\bar{X}=4.593$ ;  $SD=.548$ ); their industry requires that they constantly improve their product process to stay ahead of competition ( $\bar{X}=4.571$ ;  $SD=.496$ ); their industry requires that they constantly improve our marketing methods to stay ahead of competition ( $\bar{X}=4.551$ ;  $SD=.517$ ); their industry requires that we constantly improve our organizational methods/ systems to stay ahead of competition ( $\bar{X}=4.545$ ;  $SD=.5178$ ); and that their industry requires that we constantly improve our market knowledge to stay ahead of competition ( $\bar{X}=4.022$ ;  $SD=1.047$ ).

A majority of respondents highly affirmed to competition ( $\bar{X}=4.456$ ). Based on the results, it is implied that the market environment for MSMEs in the manufacturing sector in the country is highly competitive. To cope with the competition, MSMEs have to constantly improve their marketing methods; invest adequately in innovation in order to remain globally competitive as well as constantly improve their product process, to stay ahead of competition. In order to survive in and eventually grow in the country's dynamic and competitive business environment, small business have to find and use creative techniques as a source of competitive advantage. For MSME owners/managers, changing how things are done might be regarded as the only choice to remain competitive, improve performance and grow. The key to business success from a strategic viewpoint is to create a unique competitive advantage which offers customer value and is hard to be duplicated by rivals.

The finding is in line with Hrebiniak (2017) who observed that for an SME to successfully adopt a cost leadership strategy it should be able to lower costs by adopting reengineering activities, process innovations, economies of scale, learning curve benefits, reducing manufacturing costs and product designs. A low-cost strategy is successfully implemented when the products, business designs, and markets are more efficient than its rivals. Similarly, Liedholm and Mead, (2017) observe that Micro, Medium and Small Enterprises are constantly tasked to innovate and improve their processes and products to keep in pace with international competition. D'Aveni (2014) also notes that MSMEs are normally not very competitive with regard to good management, business operations, prudent investment, innovation, and market knowledge which are significant factors in fostering growth.

## 4.9 Hypotheses Test Results

This section presents the hypotheses test results. A total of eight hypotheses were set in their null form informed by the corresponding specific objectives of the study. To achieve this, various regression analyses were performed including simple linear, multiple linear, mediation, moderation and a moderated mediation. To aid in this analysis, the Process Macro for SPSS by Hayes (2013) was plugged in and used to run the various models.

### 4.9.1 Correlation Results

The study first performed a Pearson product moment correlation analysis to check for strength, direction and linearity of the association between the various variables explored in the study. To this end, Table 4.28 depicts the Pearson correlations for the associations between the composite variables including entrepreneurial orientation, firm strategic capabilities, environmental factors and MSME growth.

**Table 4.28: Correlation Analysis for Composite Variables**

		Growth	EO	FSC	EF
Growth	Pearson Correlation	1			
	Sig. (2-tailed)				
EO	Pearson Correlation	.160**	1		
	Sig. (2-tailed)	.005			
FSC	Pearson Correlation	.157**	.287**	1	
	Sig. (2-tailed)	.005	.000		
EF	Pearson Correlation	.157**	.263**	.956**	1
	Sig. (2-tailed)	.005	.000	.000	

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

Source: Survey Data (2020)

It can be noted from the findings, that there were both positive and significant correlation between each pair of the variables. Entrepreneurial orientation was positively correlated with MSME Growth at a correlation coefficient (r) of .160, which was significant at 95% confidence interval ( $p < .05$ ). Both firm strategic capabilities and environmental factors were also positively correlated with MSME

Growth at correlation coefficients of .157, which were significant at 90% confidence interval ( $p < .01$ ).

#### 4.9.2 Effect of Entrepreneurial Orientation on MSME Growth

The first hypothesis of the study stated that entrepreneurial orientation does not have a significant effect on MSME growth ( $H_{01}$ ). Adopting a unidimensional analysis, the variable, entrepreneurial orientation, was computed by addition of the three identified sub-scales, including innovativeness, risk propensity and proactiveness. To test the hypothesis, a simple linear regression analysis was performed in two (2) blocks and therefore 2 models. The first model included a regression of the control variables, Age and Sub-sector against MSME growth. In the second model, the independent variable, EO was introduced. The results are summarized in Table 4.29.

**Table 4.29: Test Results for  $H_{01}$**

<b>Variables</b>	<b>Model 1 (Age, Sub-sector)</b>	<b>Model 2 (Age, Sub-sector, EO)</b>
Constant	18.847 (.000)	14.302 (.000)
<b>Independent Variables</b>		
Age	.205 (.000)**	.194 (.001)**
Sub-sector	.094 (.093)	.089 (.106)
EO		.139 (.012) *
R	.234	.272
R <sup>2</sup>	.055	.074
Adjusted R <sup>2</sup>	.048	.065
R <sup>2</sup> change	.055	.019
F Statistics	8.916 (0.000)	8.185 (0.000)

Dependent Variable: MSME Growth

Values of Standardized beta coefficients, with standard errors in Parenthesis \* $P < .05$ , \*\* $P < 0.01$  (2 tailed test)

Source: Survey Data (2020)

A correlation value (R) of .234 was recorded in Model 1 indicating a linear relationship between the control variables, Age and Sub-sector and MSME growth.

An R Square of .055 was also recorded implying that only 5.5% of the variation in



MSME growth is accounted for by Age and Sub-sector, while the residual 94.5% is attributed to other factors not factored in this regression model. An F value of 8.916 was further revealed with a P value of .000 ( $<0.05$ ) indicating that the adopted regression model is statistically significant and can be used to make further inferences. Regression coefficients for Model 1 further revealed that only Age has a significant effect on MSME growth at 95% confidence level ( $\beta = .205$ ,  $p = .000 < .05$ ) while sub-sector does not ( $\beta = .094$ ,  $p = .093 > .05$ ). Whereas the control variables indicate some influence on the dependent variable, the effect is controlled for, in model 2.

Table 4.29 further reveals a correlation value (R) of .272 in Model 2 indicating a linear relationship between EO and MSME growth, controlling for both Age and Sub-sector. An R Square of .074 was also recorded implying that 7.4% of the variation in MSME growth is accounted for by EO, controlling for both Age and Sub-sector while the residual 92.6% is attributed to factors not of interest to the present regression model. An F value of 8.185 was also established in Model 2 with a P value of .000 ( $<0.05$ ) confirming that the regression model is of statistical significance and may be used to make further inferences. The regression coefficients under Model 2 further revealed that controlling for both Age and Sub-sector, EO has a significant effect on MSME growth at 95% confidence level ( $\beta = .139$ ,  $p = .012 < .05$ ). The null hypothesis that EO does not significantly influence MSME Growth ( $H_{01}$ ) is thus rejected.

#### **4.9.3 Effect of Entrepreneurial Orientation on Firm Strategic Capabilities**

The second hypothesis of the study stated that entrepreneurial orientation does not have a significant effect on firm strategic capabilities. Adopting a unidimensional analysis, the variable, firm strategic capabilities, was computed by addition of the two

identified sub-scales, including firm resources and market orientation. To test the hypothesis, a simple linear regression analysis was conducted in 2 models. In Model I, the control variables, Age and Sub-sector were regressed against Firm Strategic Capabilities. In the second model, the independent variable, EO was introduced. Table 4.30 summarizes the results.

**Table 4.30: Test Results for H<sub>02</sub>**

<b>Variables</b>	<b>Model 1 (Age, Sub-sector)</b>	<b>Model 2 (Age, Sub-sector, EO)</b>
Constant	48.076 (.000)	34.646 (.000)
<b>Independent Variables</b>		
Age	.114 (.045) *	.091 (.097)
Sub-sector	.103 (.069)	.094 (.083)
EO		.276 (.000)**
R	.160	.318
R <sup>2</sup>	.026	.101
Adjusted R <sup>2</sup>	.019	.092
R <sup>2</sup> change	.026	.075
F Statistics	4.081 (0.018)	11.542 (0.000)

Dependent Variable: Firm Strategic Capabilities

Values of Standardized beta coefficients, with standard errors in Parenthesis \*P<.05, \*\*P<0.01 (2 tailed test)

Source: Survey Data (2020)

Results summarized in Table 4.30 show a correlation value (R) of .234 in Model 1 indicating a linear relationship between the control variables, Age and Sub-sector and Firm Strategic Capabilities. An R Square of .026 was also recorded implying that only 2.6% of the variation in firm strategic capabilities is accounted for by Age and Sub-sector, while the residual 97.4% is explained by other factors not studied in this regression model. An F value of 4.081 was further revealed with a P value of .018 (<0.05) indicating that the adopted regression model is statistically significant which can be used to make further inferences. Regression coefficients for Model 1 further revealed that only Age has a significant effect on Firm Strategic Capabilities at 95% confidence level ( $\beta = .114$ ,  $p = .045 < .05$ ) while sub-sector does not ( $\beta = .103$ ,  $p = .069 > .05$ ).

Table 4.30 further reveals a correlation value (R) of .318 in Model 2 indicating a linear relationship between EO and MSME growth, controlling for both Age and Sub-sector. An R Square of .101 was also recorded implying that 10.1% of the variation in MSME growth is accounted for by EO, controlling for both Age and Sub-sector while the residual 89.9% is attributed to factors not of interest to the present regression model. An F value of 11.542 was also established in Model 2 with a P value of .000 ( $<0.05$ ) confirming that the regression model is of statistical significance and may be used to make further inferences. The regression coefficients under Model 2 further revealed that controlling for both Age and Sub-sector, EO has a significant effect on firm strategic capabilities at 95% confidence level ( $\beta = .276$ ,  $p = .000 < .05$ ). The null hypothesis that EO does not significantly influence on firm strategic capabilities ( $H_{02}$ ) is therefore rejected.

#### **4.9.4 Effect of Firm Strategic Capabilities on MSME Growth**

The third hypothesis of the study stated that Firm strategic capabilities do not have a significant effect on MSME Growth ( $H_{03}$ ). Firm strategic capabilities variable was conceptualized as unidimensional and therefore the composite variable was computed with the aid of SPSS. To test this null hypothesis, Model 4 of the Process Macro by Hayes (2013) was also adopted. Findings are presented in Table 4.31.

**Table 4.31: Test Results for H<sub>03</sub>**

<b>Variables</b>	<b>Model 1 (Age, Sub-sector)</b>	<b>Model 2 (Age, Sub-sector, FSC)</b>
Constant	18.847 (.000)	14.852 (.000)
<b>Independent Variables</b>		
Age	.205 (.000)**	.191 (.001)
Sub-sector	.094 (.093)	.081 (.146)
FSC		.124 (.026)*
R	.234	.264
R <sup>2</sup>	.055	.070
Adjusted R <sup>2</sup>	.048	.061
R <sup>2</sup> change	.055	.015
F Statistics	8.916 (0.000)	7.679 (0.000)

Dependent Variable: MSME Growth

Values of Standardized beta coefficients, with standard errors in Parenthesis \*P<.05, \*\*P<0.01 (2 tailed test)

Source: Survey Data (2020)

A correlation value (R) of .234 was recorded in Model 1 indicating a linear relationship between the control variables, Age and Sub-sector and MSME growth.

An R Square of .055 was also recorded implying that only 5.5% of the variation in MSME growth is accounted for by Age and Sub-sector, while the residual 94.5% is attributed to factors not of interest to the present regression model. An F value of 8.916 was further revealed with a P value of .000 (<0.05) confirming that the regression model is of statistical significance and may be used to make further inferences. Regression coefficients for Model 1 further revealed that only Age has a significant effect on MSME growth at 95% confidence level ( $\beta = .205$ ,  $p = .000 < .05$ ) while Sub-sector does not ( $\beta = .094$ ,  $p = .093 > .05$ ).

Table 4.31 further reveals a correlation value (R) of .264 in Model 2 indicating a linear relationship between firm strategic capabilities and MSME growth, controlling for both Age and Sub-sector. An R Square of .070 was also recorded implying that 7.0% of the variation in MSME growth is accounted for by firm strategic capabilities, controlling for both Age and Sub-sector while the residual 93.0% is attributed to

factors not of interest to the present regression model. An F value of 7.679 was also established in Model 2 with a P value of .000 ( $<0.05$ ) confirming that the regression model is of statistical significance and may be used to make further inferences. The regression coefficients under Model 2 further revealed that controlling for both Age and Sub-sector, firm strategic capabilities have a significant effect on MSME growth at 95% confidence level ( $\beta = .124$ ,  $p = .026 < .05$ ). The null hypothesis that firm strategic capabilities does not significantly influence MSME Growth ( $H_{03}$ ) is thus rejected.

#### **4.9.5 Entrepreneurial Orientation, Firm Strategic Capabilities and MSME Growth**

The fourth hypothesis of the study stated that firm strategic capabilities do not significantly mediate the association between EO and MSME Growth ( $H_{04}$ ). To test the null hypothesis, a three-step mediation procedure was adopted employing model 4 of the Process Macro by Hayes (2013):

Step 1: The effect of entrepreneurial orientation on firm strategic capabilities indicated as path “ $a_5$ ” (Figure 3.2)

Step 2: The effect of firm strategic capabilities on MSME growth, path “ $b_6$ ” (Figure 3.2)

Step 3: The indirect path between entrepreneurial orientation and MSME growth via firm strategic capabilities ( $a_5 * b_6$ )

Covariates (Age and Subsector) were included in the analyses, results of which are summarized on Table 4.32.

**Table 4.32: Test Results for H<sub>04</sub>**

<b>Variables</b>	<b>Model 1 (Outcome: FSC)</b>	<b>Model 2 (Outcome: Growth)</b>
Constant	34.6458 (.000)**	12.1639 (.000)**
<b>Independent Variables</b>		
EO	.1863 (.000)**	.0516(.047)*
Age	.5122 (.097)	.7007(.001)**
Sub-sector	.0789 (.083)	.045 (.145)
FSC		.0617(.111)
F Statistics	11.5419	6.8089
R	.3179	.2855
R <sup>2</sup>	.1011	.0815
<b>Direct effect of X on Y</b>		
		.052
LLCI		.0007
ULCI		.1024
<b>Indirect effect(s) of X on Y</b>		
		.012
LLCI		-.0020
ULCI		.0273

Dependent Variable: MSME Growth

Values of Standardized beta coefficients, with standard errors in Parenthesis \*P<.05, \*\*P<0.01 (2 tailed test)

Source: Survey Data (2020)

The study established a correlation value (R) of .3179 in Model 1 indicating a linear relationship between entrepreneurial orientation and firm strategic capabilities. An R Square value of .1011 was also recorded implying that 10.1% of the variation in firm strategic capabilities is accounted for by direct effect of entrepreneurial orientation and a mediating effect of Firm Strategic Capabilities, while the residual 89.9% is attributed to factors not of interest to the present regression model. A P value of .0000 was further established at 95% confidence level implying that the regression model adopted is significant statistically and can be relied upon to make further inferences.

The regression Model 1 further revealed that EO has a significant effect on MSME Growth at 95% confidence level ( $\beta = .1863$ ,  $p = .000 < .05$ ). The direct effects of the control variables, Age and Sub-sector on firm strategic capabilities were however not significant at 95% confidence level ( $\beta = .5122$ ,  $p = .097 > .05$ ).

In model 2, the direct effect of entrepreneurial orientation on MSME Growth recorded statistical significance ( $\beta = .0516$ ,  $p = .047 < .05$ ), controlling for Age, which also recorded statistical significance ( $\beta = .7007$ ,  $p = .001 < .05$ ), and Sub-sector ( $\beta = .045$ ,  $p = .145 > .05$ ). The mediating variable, firm strategic capabilities however showed no statistical significance ( $\beta = .0617$ ,  $p = .111 > .05$ ), with both the lower limit (-.0020) and the upper limit (.0273) including zero (0). The study therefore fails to reject the fourth null hypothesis of the study stating that firm strategic capabilities do not significantly mediate the association between EO and MSME Growth ( $H_{04}$ ).

#### **4.9.6 Entrepreneurial Orientation, Environmental Factors and Firm Strategic Capabilities**

The fifth hypothesis of the study stated that environmental factors do not significantly moderate the relationship between entrepreneurial orientation and firm strategic capabilities ( $H_{05}$ ). Model 59 based on both Baron and Kenny (1986) and Hayes (2013) were adopted to test the null hypotheses. Results are as tabulated in Table 4.33.

**Table 4.33: Test Results for Model 8**

<b>Variables</b>	<b>Model 1 (H<sub>05a</sub>)</b>
Constant	11.5055 (.2011)
<b>Independent Variables</b>	
Entrepreneurial Orientation	-.0568 (.636)
Environmental Factors	.6373 (.000) **
Int_1	.0014 (.493)
Age	.0995(.295)
Subsect	.0144(.303)
F Statistics	667.4872
R	.9571
R <sup>2</sup>	.9160
R <sup>2</sup> Change	.0001 (.493)
<b>x*w</b>	
LLCI	-.0026
ULCI	.0054

Dependent Variable: Firm Strategic Capabilities

Values of Standardized beta coefficients, with standard errors in Parenthesis \*P<.05, \*\*P<0.01 (2 tailed test)

Source: Survey Data (2020)

The established correlation value (R) in the model was .9571, indicating a strong, linear relationship among entrepreneurial orientation, environmental factors and firm strategic capabilities. An R Square value of .9160 was also recorded implying that 91.6% of the variation in firm strategic capabilities is accounted for by the direct effect of entrepreneurial orientation, and its interaction with environmental factors, while the residual 8.4% is attributed to factors not of interest to the present regression model. An R square change of .0001 was further established which was not significant at 95% confidence level (.493>.05). A P value of .0000 was further established at 95% confidence level implying that the regression model adopted is statistically significant and can be relied upon to make further inferences.



The model further revealed that entrepreneurial orientation does not have a significant direct effect on firm strategic capabilities at 95% confidence level ( $\beta = -.0568$ ,  $p = .636 > .05$ ). The direct effect of environmental factors on firm strategic capabilities was however significant at 95% confidence level ( $\beta = .6373$ ,  $p = .000 < .05$ ). It was further established that controlling for Age ( $\beta = .0995$ ,  $p = .295 > .05$ ) and Sub-sector ( $\beta = .0144$ ,  $p = .303 > .05$ ) the interaction between entrepreneurial orientation and environmental factors was not significant at 95% confidence level ( $\beta = .0014$ ,  $p = .493 > .05$ ) with the lower limit (-.0026) and the upper limit (.0054) crossing zero (0), indicating no moderation. The study thus fails to reject the null hypothesis that environmental factors do not have a significant moderating effect on the association between entrepreneurial orientation and firm strategic capabilities ( $H_{05}$ ).

#### **4.9.7 Entrepreneurial Orientation, Environmental Factors and MSME Growth**

The sixth hypothesis of the study stated that environmental factors do not moderate significantly the relationship between entrepreneurial orientation and MSME growth ( $H_{06}$ ). Further, both Model 59 based on Baron and Kenny (1986) and Hayes (2013) were also adopted to test the null hypotheses.

**Table 4.34: Test Results for Model 9**

<b>Variables</b>	<b>Model 1 (H<sub>06</sub>)</b>
Constant	52.5904 (.0081)
<b>Independent Variables</b>	
Entrepreneurial Orientation	-.4885 (.065)
Environmental Factors	-.6352 (.059)
Int_1	.0092 (.040)*
Age	.7119 (.001)**
Subsect	.0431(.161)
F Statistics	6.4522
R	.3088
R <sup>2</sup>	.0954
R <sup>2</sup> Change	.0125 (.040)*
<b>x*w</b>	
LLCI	.0004
ULCI	.0180

Dependent Variable: MSME growth

Values of Standardized beta coefficients, with standard errors in Parenthesis \*P<.05, \*\*P<0.01 (2 tailed test)

Source: Survey Data (2020)

As presented in Table 4.34, the established correlation value (R) in the model was .3088, indicating a linear relationship among entrepreneurial orientation, environmental factors and MSME growth. An R Square value of .0954 was also recorded implying that 9.5% of the variation in MSME growth is accounted for by the direct effect of entrepreneurial orientation, and its interaction with environmental factors, while the residual 90.5% is attributed to factors not of interest to the present regression model. An R square change of .0125 was further established which was significant at 95% confidence level (.040<.05). A P value of .0000 was further established at 95% confidence level implying that the regression model adopted is statistically significant and can be relied upon to make further inferences.

The model further revealed that entrepreneurial orientation does not have a significant direct effect on MSME growth at 95% confidence level ( $\beta = -.4885$ ,  $p = .065 > .05$ ). The direct effect of environmental factors on MSME growth was also not significant at

95% confidence level ( $\beta = -.6352$ ,  $p = .059 > .05$ ). It was further established that controlling for Age ( $\beta = .7119$ ,  $p = .001 < .05$ ) and Sub-sector ( $\beta = .0431$ ,  $p = .161 > .05$ ) the interaction between entrepreneurial orientation and environmental factors was significant at 95% confidence level ( $\beta = .0092$ ,  $p = .040 < .05$ ) with both the lower limit (.0004) and the upper limit (.0180) above zero (0), indicating moderation. The study therefore rejects the null hypothesis that environmental factors do not moderate significantly, the association between entrepreneurial orientation and MSME growth ( $H_{06}$ ).

#### **4.9.8 Firm Strategic Capabilities, Environmental Factors and MSME Growth**

This section presents the test results for the seventh hypothesis of the study which states that environmental factors do not significantly moderate the relationship between firm strategic capabilities and MSME Growth ( $H_{07}$ ). Model 59 based on Baron and Kenny (1986) and Hayes (2013) were also adopted to test this null hypothesis. Results are as depicted in Table 4.35.

**Table 4.35: Test Results for Model 10**

<b>Variables</b>	<b>Model (H<sub>07</sub>)</b>
Constant	23.6057 (.1791)
<b>Independent Variables</b>	
Firm Strategic Capabilities	-.1570 (.6654)
Environmental Factors	-.0889 (.7810)
Int_1	.0029 (.6240)
Age	.7265 (.0006)**
Subsect	.0474 (.1306)
F Statistics	4.7088
R	.2673
R <sup>2</sup>	.0714
R <sup>2</sup> Change	.0007 (.6240)
<b>x*w</b>	
LLCI	-.0087
ULCI	.0145

Dependent Variable: MSME growth

Values of Standardized beta coefficients, with standard errors in Parenthesis \*P<.05, \*\*P<0.01 (2 tailed test)

Source: Survey Data (2020)

As presented in Table 4.35, the established correlation value (R) in the model was .2673, indicating a linear relationship among firm strategic capabilities, environmental factors and MSME growth. An R Square value of .0714 was also recorded implying that 7.1% of the variation in MSME growth is accounted for by the direct effect of firm strategic capabilities, and its interaction with environmental factors, while the residual 92.9% is attributed to factors not of interest to the present regression model. An R square change of .0007 was further established which was not significant at 95% confidence level (.6240>.05). A P value of .0000 was further established at 95% confidence level implying that the regression model adopted is statistically significant and can be relied upon to make further inferences.

The model further revealed that firm strategic capabilities does not have a direct effect that is significant, on MSME growth ( $\beta = -.1570$ ,  $p = .6654 > .05$ ). The direct effect of

environmental factors on MSME growth was also not significant at 95% confidence level ( $\beta = -.0889$ ,  $p = .7810 > .05$ ). It was further established that controlling for Age ( $\beta = .7265$ ,  $p = .001 < .05$ ) and Sub-sector ( $\beta = .0474$ ,  $p = .1306 > .05$ ) the interaction between firm strategic capabilities and environmental factors was not significant at 95% confidence level ( $\beta = .0029$ ,  $p = .6240 > .05$ ) with both the lower limit ( $-.0087$ ) and the upper limit ( $.0145$ ) including zero (0), indicating no moderation. The study therefore fails to reject the null hypothesis that environmental factors do not have a significant moderating effect on the association between firm strategic capabilities and MSME growth ( $H_{06}$ ).

#### **4.9.9 Entrepreneurial Orientation, Firm Strategic Capabilities, MSME growth and Environmental Factors**

The eighth hypothesis of the study stated that environmental factors do not moderate the indirect relationship between entrepreneurial orientation and MSME growth via firm strategic capabilities ( $H_{08}$ ). Model 59 based on Baron and Kenny (1986) and Hayes (2013) were further adopted to test the null hypothesis. Table 4.36 presents the test results.

**Table 4.36: Test Results for Model 11**

<b>Variables</b>	<b>Model 1 (First Interaction)</b>	<b>Model 2 (Second Interaction)</b>
Constant	11.5055 (.2011)	49.2516 (.0309)
<b>Independent Variables</b>		
Entrepreneurial Orientation	(.6363)	
Environmental Factors	.6373 (.0000)**	
Int_1	.0014 (.4933)	
Age	.0995(.2946)	
Subsect	.0144(.3033)	
Entrepreneurial Orientation		-.5231 (.0646)
Firm Strategic Capabilities		.0880 (.8166)
Environmental Factors		-.5494 (.1680)
Age		.7160(.0007)**
Subsect		.0423(.1746)
Int_1		.0098 (.041)*
Int_2		-.0021 (.7384)
F Statistics	667.4872	4.6061
R	.9571	.3097
R <sup>2</sup>	.9160	.0959
R <sup>2</sup> Change	.0125 (.0415)*	.0003 (.7384)
<b>Int_1</b>		
LLCI		.0004
ULCI		.0192
<b>Int_2</b>		
LLCI		-.0143
ULCI		.0102

Dependent Variable: Firm Strategic Capabilities (First Interaction)

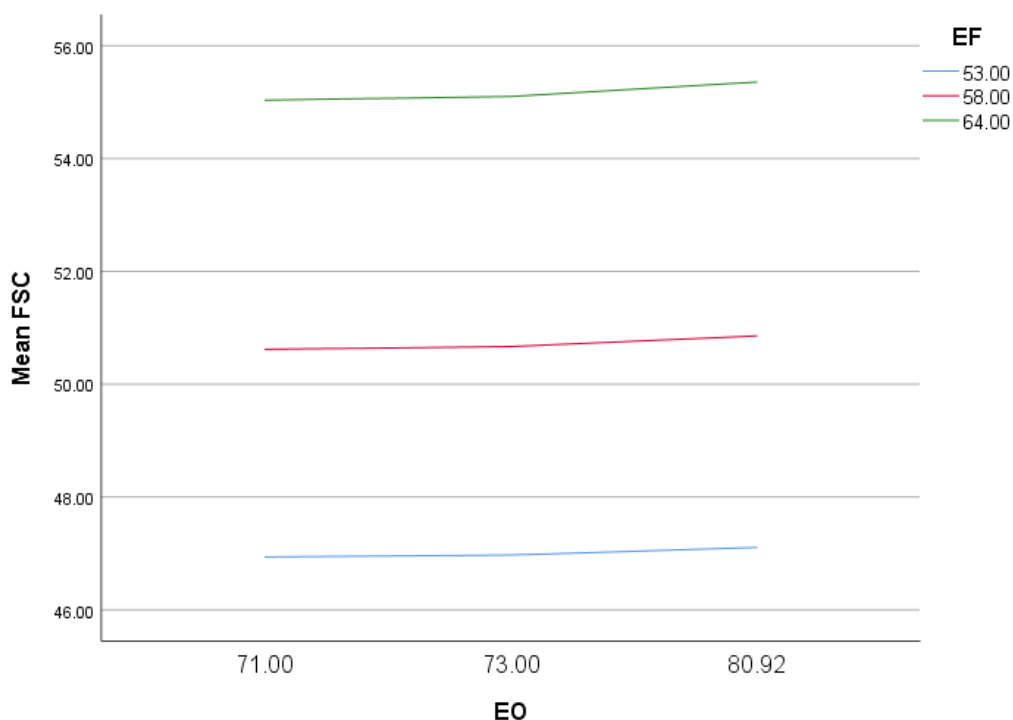
Dependent Variable: MSME Growth (Second Interaction)

Values of Standardized beta coefficients, with standard errors in Parenthesis \*P<.05, \*\*P<0.01 (2 tailed test)

As presented in Table 4.36, a correlation value (R) of .9571 was established in Model 1 indicating a strong linear association between EO, environmental factors and firm strategic capabilities. An R Square value of .9160 was also recorded implying that

91.6% of the variation in firm strategic capabilities is accounted for by the direct effect of EO and a moderating effect of environmental factors, while the residual 8.4% is attributed to factors not of interest to the present regression model. An R square change of .0125 was further established which was significant at 95% confidence level ( $.0415 < .05$ ). A P value of .0000 was further established at 95% confidence level implying that the regression model adopted is statistically significant and can be relied upon to make further inferences.

The regression Model 1 further revealed that entrepreneurial orientation does not have a significant direct effect on firm strategic capabilities at 95% confidence level ( $\beta = -.0568, p = .6363 > .05$ ). The direct effect of environmental factors on firm strategic capabilities was however significant at 95% confidence level ( $\beta = .6373, p = .000 < .05$ ). It was further established that the first interaction between entrepreneurial orientation and environmental factors was not significant at 95% confidence level ( $\beta = .0014, p = .4933 > .05$ ). The control variables, Age ( $\beta = .0995, p = .295 > .05$ ) and Sub-sector ( $\beta = .0144, p = .303 > .05$ ) were also not significant at 95% confidence level. The conditional effect of the focal predictor, entrepreneurial orientation on firm strategic capabilities was visualized as presented in Figure 4.1.



**Figure 4.1 Conditional Effect of Entrepreneurial Orientation on Firm Strategic Capabilities**

The result presented in Figure 4.1 reveals that whereas entrepreneurial orientation exerts an effect on firm strategic capabilities at all levels of environmental factors, the effect is more pronounced when environmental factors are perceived more positively, as opposed to when environmental factors are perceived negatively. As such, a favorable and supportive policy and competitive environment enhances the relationship between entrepreneurial orientation and firm strategic capabilities. The effect is however not significant, as indicated by an only slightly steeper slope in the upper line graph, compared to the lower line graphs.

As also presented in Table 4.33, the study then tested whether environmental factors significantly moderate the indirect effect of entrepreneurial orientation on MSME growth via firm strategic capabilities in Model 2. The established a correlation value (R) of .3097 indicating a linear relationship between entrepreneurial orientation, firm strategic capabilities, environmental factors and MSME Growth. An R Square value

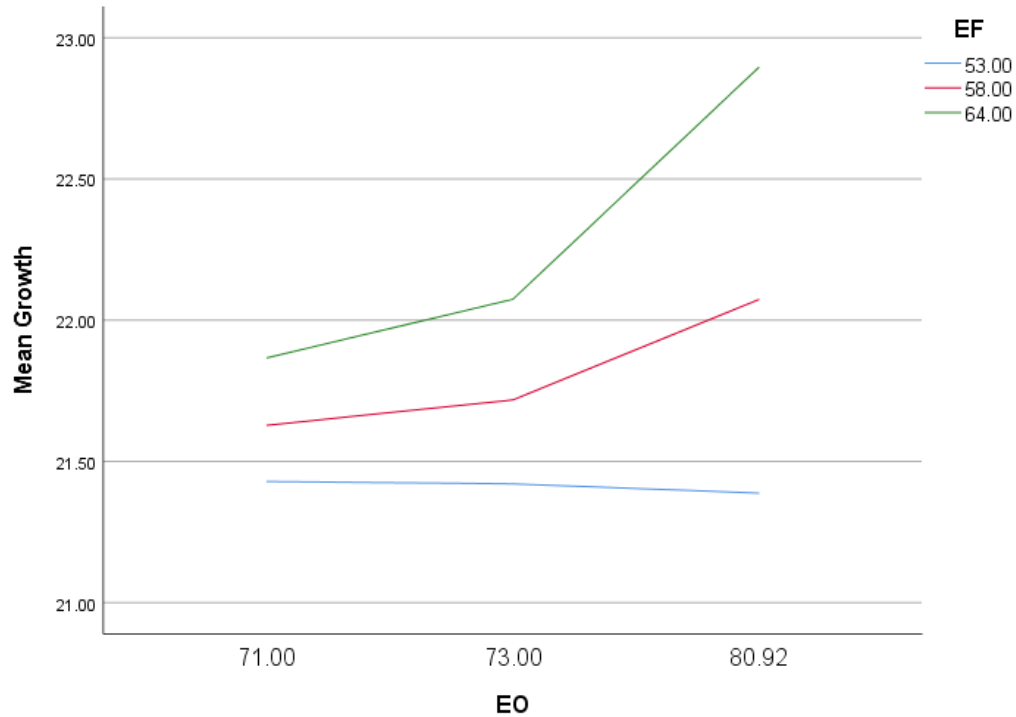


of .0959 was also recorded implying that 9.6% of the variation in MSME Growth is accounted for by the direct effect of entrepreneurial orientation, a mediating effect of firm strategic capabilities and a moderating effect of environmental factors, while the residual 90.4% is attributed to factors not of interest to the present regression model. An R square change of .0003 was further established in the second moderation which was also not significant at 95% confidence level ( $P=.7384>.05$ ). A P value of .0000 was further established at 95% confidence level implying that the regression model adopted is statistically significant and can be relied upon to make further inferences.

The regression Model 2 further revealed that entrepreneurial orientation does not have a significant direct effect on MSME Growth at 95% confidence level ( $\beta = -.5231$ ,  $p=.0646>.05$ ). The direct effect of firm strategic capabilities on MSME growth was also not significant at 95% confidence level ( $\beta=.0880$ ,  $p=.8166>.05$ ). Environmental factors on MSME Growth was further not significant at 95% confidence level ( $\beta=.7160$ ,  $p=.001<.05$ ).

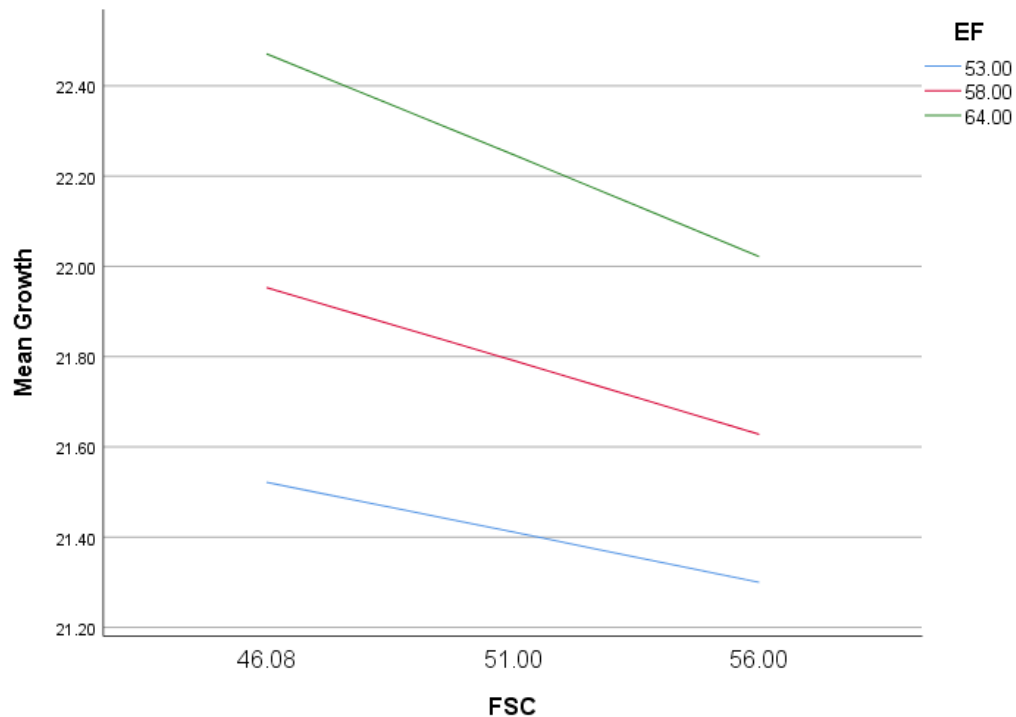
It was further established that controlling for Age and Sub-sector, the first interaction between entrepreneurial orientation and environmental factors was significant at 95% confidence level ( $\beta=.0098$ ,  $P=.041<.05$ ) with the lower limit (.0004) and the upper limit (.0192) both greater than zero (0) indicating moderation. The second interaction between the firm strategic capabilities (mediator) and environmental factors was however not significant at 95% confidence level ( $\beta=-.0021$ ,  $P=.7384>.05$ ) with the lower limit (-.0143) and the upper limit (.0102) including zero (0) indicating no moderated mediation. The study thus fails to reject the null hypothesis that the indirect association between EO and MSME growth via firm strategic capabilities is not moderated by environmental factors ( $H_{08}$ ).

The conditional effect of the focal predictor, entrepreneurial orientation on MSME growth at values of the moderator, environmental factors, was visualized as presented in Figure 4.2.



**Figure 4.2 Conditional Effect of Entrepreneurial Orientation on MSME growth**

The result presented in Figure 4.2 reveals that whereas entrepreneurial orientation exerts an effect on MSME growth at all levels of environmental factors, the effect is more pronounced when environmental factors are perceived more positively, as opposed to when environmental factors are perceived negatively. As such, a favorable and supportive policy and competitive environment enhances the relationship between entrepreneurial orientation and MSME growth. The effect is statistically significant, as indicated by a notably steeper slope in the upper line graph, compared to the lower line graphs. The conditional effect of the focal predictor, firm strategic capabilities on MSME growth at values of the moderator, environmental factors, was further visualized as presented in Figure 4.3.



**Figure 4.3 Conditional Effect of Firm Strategic Capabilities on MSME growth**

The result presented in Figure 4.3 reveals a negative association between firm strategic capabilities and MSME growth at values of the moderator, environmental factors. Whereas firm strategic capabilities exert an effect on MSME growth at all levels of environmental factors, the effect is not distinct at different perceptions of environmental factors. This was however not statistically significant as indicated by the largely negligible gradient difference in all the three (3) line graphs ( $\beta = .0029 > 0.05$ ). The negative slopes can be attributed to the negatively perceived environmental factors (particularly policy environment) worsening the effect of the already limited FSC on MSME growth.

#### **4.10 Discussion of Findings**

In this section, the study findings are discussed in relation to their points of convergence with and divergence from findings in extant literature. The section also explains the extent to which the research gaps have been filled and reports the emerging new knowledge that is the thesis of the study.

##### **4.10.1 Entrepreneurial Orientation and MSME Growth**

The study advanced the first null hypothesis, that entrepreneurial orientation does not have a significant effect on MSME growth ( $H_{01}$ ). Findings present evidence to reject the null hypothesis ( $\beta = .139$ ,  $p = .012 < .05$ ). This implies that owners/managers' who are entrepreneurially oriented, that is innovative, with high-risk appetite and proactive, are more likely to experience growth in their MSMEs as opposed to owners/managers who are not. Innovativeness among manufacturing sector MSMEs entail introduction of new products or changing existing ones, processes involved in production and operations as well as marketing. Accordingly, innovative MSME owners/managers tend to improve existing services or products or introduce novel ones; implement a new or enhanced manufacturing or distribution process; introduce new ways of coordinating internal process and inspiring employees to innovate; and employ innovative marketing strategies which entail learning and tracking changes in consumer preferences in order to create value as well as how selected markets are attended to. The foregoing leads to improvements in business performance and operational efficiencies and increased sales and expansion which ultimately results in MSME growth.

In MSMEs which innovate, survival rates are also higher as they are capable of adapting to challenging conditions in the market. Innovative MSME owners/managers

also have a higher likelihood to operate in exportation markets and resultantly lead to productivity on an economy-wide scope of benefits particularly from dynamic competition as exporting and innovating firms increase their market share while other lose. Also, given that presently, the business environment is continually changing not only globally but also locally, innovativeness becomes a competitive advantage when it is based on the understanding of customers' needs with a view to create and guarantee value.

It can also be deduced from the findings that risk taking owners/managers have a higher likelihood of undergoing growth in their MSMEs as opposed to risk-averse owners/managers. Risk taking owners/managers are willing to indulge in behavior that are comparatively high risk which enables their MSMEs to take advantage of profitable prospects in the market in the face of ambiguity which results in long term success and eventual growth. Risk taking owners/managers are also capable of collaborating with rivals towards resource sharing and indirectly conspire to address competitive doubts in their environment. Through these kinds of interactions, information is made accessible to managers, concerning other businesses' practices and policies, that they then emulate in their own businesses. Thus, risk taking results in managerial networking ties and associations with other firms' top managers, enabling the MSMEs' secure access to knowledge, resources, and information which are employed to grow and improve performance.

The findings are further of the implication that proactive owners/managers have a higher likelihood of experiencing growth in their MSMEs as opposed to non-proactive owners/managers. Proactive owners/managers often lookout for prospects in the market and use local inputs to produce unique services and goods which meet

broad market demands or needs. Owners/managers with high proactivity also seek to track the changing consumer tastes and preferences in order to alter their production and marketing practices with a view to create a niche and access markets at the expense of non-proactive owners/managers hence growth.

A formidable proactive strategic posture among MSME owners/managers further offers businesses with capacity to predict alterations that may take place in the market or even apply pressure in the market to their benefit. Strong proactive thinking among MSME owners/managers also have a higher likelihood of to offer businesses with arrays of capabilities to forecast customer needs as well as competitors' reactions in the market. Proactiveness is also a core input among MSMEs with high responsive ability as such businesses show commitment to taking first mover advantage by carrying out activities that are opportunity-seeking and forward-looking and which results in growth.

The finding is consistent with Deschryvere (2014) who also reported a positive linkage between sales growth and EO as measured by innovation, pro-activeness and risk taking. Similarly, Masona *et al.* (2015) reported a positive association between entrepreneurial orientation as measured by pro-activeness, risk taking and innovation and firms' performance. Furthermore, Calvo (2016) focused on innovative, young, and small Spanish firms and found that EO as measured by pro-activeness, risk taking and innovation had a significant impact on employment growth. Mirela (2018) also found EO as measured by pro-activeness, risk taking and innovation to be a crucial factor in success, growth, survival, and development of a business. Waithaka (2016) also found a strong positive correlation between entrepreneurial orientation as measured by innovation, risk taking and pro-activeness and performance of the SMEs.

The finding concurs with Neneh and Zyl (2017) whose study found that entrepreneurial orientation as measured by pro-activeness, risk taking and innovation has a significant influence on employment and asset growth. Likewise, Jalali *et al.* (2014) found that entrepreneurial orientation as measured by pro-activeness, risk taking and innovation had a strong positive association to growth profitability and firm performance. The finding is also consistent with Farja, Gimmon and Greenberg (2016), in whose study on the effect of EO as measured by innovation, risk taking and pro-activeness on SMEs export and growth in Israeli peripheral regions found that EO strongly affects SME growth and expansion of firms to global markets.

Conversely however, Moreno and Casillas (2018) established that EO as measured by innovation, risk taking and pro-activeness does not have a significant relationship with sales growth. Similar contrasting results were found by Naldi, Nordqvist, Sjöberg and Wiklund (2007), Hughes and Morgan (2017) and Rauch, Wiklund, Lumpkin and Frese (2009) and Gurbuz and Aykol (2009) Walter *et al.* (2016) and Slater and Narver (2010). This can be attributed to differences in the industries studied, measures adopted for MSME growth and the methodology adopted. Whereas this study focused on the manufacturing sector and measured employment growth, Naldi *et al.* (2007) focused on family businesses and measured growth by profitability while Hughes and Morgan (2017) studies firms only at the embryonic stage, that is less than 5 years old. On their part, Rauch *et al.* (2009) assessed both small and large firms taking a desktop review design.

#### **4.10.2 Entrepreneurial Orientation and Firm Strategic Capabilities**

The study put forth the second null hypothesis, that entrepreneurial orientation does not have a significant effect on firm strategic capabilities ( $H_{02}$ ). Findings also present

evidence to reject the null hypothesis ( $\beta = .276$ ,  $p = .000 < .05$ ). It can be inferred from the finding that owners/managers who exhibit entrepreneurial orientation, particularly innovativeness, high risk appetite and proactiveness are more likely to reach markets more effectively and acquire key firm resources requisite in improving their enterprises' strategic capabilities as opposed to owners/managers who do not. Innovativeness among MSME owners/managers motivates enterprises to increase investment in technological and technical such innovation activities as development of new equipment, development of new products and acquisition of new technology among others. This improves and enterprise's technological innovation ability, promotes enterprise innovation and reform, accelerate the transformation and flow of new knowledge, and add to the production of new technology and knowledge, which results in improvement of the business' strategic capabilities. The capability of innovation facilitates MSMEs to introduce new products and adopt new systems quickly is further important to generate working capital to earn MSMEs the capacity to handle ongoing competition.

Accordingly, Subramaniam and Youndt (2015) argued that the capability to be innovative has a strong linkage to the capability of utilizing information resources and they opined further, that skills and knowledge which enable innovation are facilitated by persons within the organisation. Furthermore, Gumusluoglu and Ilsev (2016) report that firms which develop an innovative strategy have a higher likelihood of exploiting and developing their internal resources including knowledge. Also, according to Flores *et al.* (2015), firms which have an innovation-based strategy that is distinguished will be better at acquiring sufficient resources for the organization, promoting innovative capabilities and associating with network partners.



The finding is of the implication that the more risk tolerant the owner/manager is, the higher the likelihood that they will acquire essential firm resources essential in building their enterprises' strategic capabilities. High risk appetite among MSME owners/managers also encourages experimentation with new products, technologies, equipment and markets which speeds up the acquisition, learning, and absorbing of the new resource capital including information and strategies and ultimately improves the enterprise's strategic capabilities. By taking risks, MSME owners/managers are also able to take full advantage of market opportunities which translates to strategic alliances and collaborations hence improved firm strategies capabilities by the MSMEs.

Similar studies were reported by Nwankwo, Ogamba, Anyanwu, and Onu (2016) who report a significant relationship existing between entrepreneurial orientation as measured by innovation, risk taking and pro-activeness and organizational learning as well as between risk taking and organizational resilience. Similarly, Mitchell & Harris (2015) have observed that risk taking firms are more likely to develop more resilience to shocks and stress.

The findings further imply that proactive owners/managers are more likely to acquire key firm resources necessary in building their enterprises' strategic capabilities as compared to non-proactive owners/managers. Proactive MSME owners/managers also place emphasis on marshalling capabilities which shape the market and affect policy makers to their advantage with regard to market position or market share. Further, proactive activities by owners/managers enable MSMEs to be up to date with technological changes and regularly struggle to integrate and create resources to align with advancement in technology.

#### 4.10.3 Firm Strategic Capabilities and MSME Growth

The study stated the null hypothesis, that firm strategic capabilities do not have a significant effect on MSME growth ( $H_{03}$ ). Findings further present evidence to reject the null hypothesis ( $\beta = .124$ ,  $p = .026 < .05$ ). The finding implies that the more resourced and strategic an MSME is, the more growth will be experienced. Firm strategic capabilities involve the capability by MSMEs to lookout, execute and combine various collections of resources in an effort to deliver superior performance in the market. Outstanding business performance in the marketplace and eventual growth of MSMEs is to a great degree reliant on the MSMEs' capacity to deal with uncertainty issues associated with customer taste fluctuations by producing vigorous knowledge about trends in the market and predict preferences in the market. As such, improving MSMEs capabilities to align or integrate the right kind of resources to deliver value that best suit such market preferences determines their growth.

The finding is in tandem with Kithusi (2015) who reports that firm performance was notably influenced by the resources of a firm. Similarly, Ambad and Wahab (2017) found in their study that companies which are capable of committing substantial resources to investments are the ones at the advantage of achieving higher outputs with regard to generation of incomes. Delmer, Davidson and Gestner (2017) also report in their study that a firm-specific advantage in facilitating organizational growth and penetrating international markets may stem from such use of specific technologies as the internet or internet investments in technology. Likewise, Fruhling and Digman (2016) argue that many entrepreneurial organizations can rise above the drawback of small size through their use of appropriate technology and quality equipment to reach consumers beyond their borders and widen market opportunities which leads to expansion.

#### **4.10.4 Entrepreneurial Orientation, Firm Strategic Capabilities and MSME Growth**

The study hypothesized that firm strategic capabilities do not mediate the relationship between entrepreneurial orientation and MSME growth (H<sub>04</sub>). Based on the findings ( $\beta = .0617$ ,  $p = 111 > .05$ ), the study fails to reject the null hypothesis. Tied to the established significant direct association between entrepreneurial orientation and MSME Growth, it can be deduced from the findings that among MSMEs, innovative, risk tolerant and proactive owners/managers are likely to achieve growth, regardless of their strategic capabilities. This can be attributed to both the lack of formal strategic plans among most micro and small businesses and their limited resource endowment in terms of financial resource, cash flow and technological resources.

To achieve growth in light of limited resources and absent formal strategic plans, innovative owners/managers are likely to innovate marketing strategies, develop and align internal operations for efficiency and establish relationships with suppliers which results in improved access to markets, efficiencies in operations, increased products and sales hence growth. Entrepreneurial MSME owners/managers are also forward-looking, risk taking and proactive, creating new markets and market opportunities driven by gaps in the market which often earns them a market and product niche. This improves the MSMEs' competitive advantage as well as capacity to produce products with ready markets as opposed to their competitors resulting in growth.

This is consistent with O'Regan and Ghobadian (2017) who report that resource constraints and lack of technology intelligence inspire not only the entrepreneur's innovativeness and willingness to disseminate and gather, but also a firm culture

which is dedicated to shaping customer value for growth-oriented SMEs. Similarly, Monteiro, Soares and Rua (2017) argue that the capability to sustain and create the required organizational culture and inadequacy of resource endowment among smaller firms provide impetus of business owners to innovate. Accordingly, Rehman and Saeed (2015) aver that while firm-wide responsiveness is an advantage offered by smaller size, promoting such a marketing-oriented culture gets much more reliant upon the firm owner/manager's risk-taking propensity. If the owner/manager is unable to or unwilling to take risks in the daily decision-making, the culture of the organization may also not be supportive to the needed values for high marketing orientation levels. Similarly, Tsao and Chen (2016) intimate that whereas it is more immediately ostensible in smaller firms, at any size for business growth, support by the top management for a culture that is moderately risk taking and which fosters market orientation is critical.

#### **4.10.5 Entrepreneurial Orientation, Environmental Factors and Firm Strategic Capabilities**

It was hypothesized in the study, that environmental factors do not moderate the relationship between entrepreneurial orientation and firm strategic capabilities ( $H_{05}$ ). Based on the findings ( $\beta = .0014$ ,  $p = .493 > .05$ ), the study fails to reject the null hypothesis. It is inferred that environmental factors neither accelerate nor inhibit the extent to which owners/managers innovate, take risks or are proactive, leading to the acquisition of key firm resources and formulation of strategies leading to enhanced firm strategic capabilities. This can be attributed to MSME owners/managers leveraging their innovativeness, risk propensity and proactiveness to build strategic flexibility regardless of the policy and business environments given the uncertainty and turbulence. Despite unfavorable policy environments and intensive competition

for instance, entrepreneurial MSME owners/managers continue to innovate their products, process, marketing and internal operations which earns them strategic flexibility.

Further, despite adverse policy and regulatory environments, increased competition and minimal government support services, entrepreneurial MSME owners/managers are risk taking by nature, investing in new equipment, technologies and strategies including joint ventures, collaborations, alliances and networking with a view to increase their capacity to survive and remain competitive in the market. Entrepreneurial MSME owners/managers also constantly seek new market opportunities, new ideas and new strategies, seek gaps in the market and initiate action with a view to stay ahead of competition regardless of the environment.

The findings are in tandem with Marcus and Geffen (2018) who offer that dealing with the opportunities and uncertainties around altering expectations of the society around corporate environmental impacts, evolving regulations, environmental issues and new technologies requires entrepreneurial experimentation with new decision parameters (environmental impacts) which presupposes some level of risk taking and can result in major changes in frames of reference, values, and norms. Shrivastava and Mitroff (2017) add that to tackle uncertainties in the external environment, managers out to venture into new decisions making routines, organizing resource combinations and performing tasks. Such an undertaking particularly entails various interpretations of existing and new knowledge in view of new considerations of events which result in built organizational capabilities.

The finding is in line with Sharma and Vredenburg (2018) who found that the organizational capabilities, strategic flexibility and continuous innovation are linked

more with entrepreneurial orientation than environmental externalities. They add that continuous innovation and the deployment of the capability is dependent more on managerial decision-making autonomy and less on uncertainty in the general business environment. Dvir, Segev and Shenhar (2016) further report that despite regulatory changes in the external environment, companies with a proactivity capability of a strategic nature develop routines and processes to identify ideas with a view to actively capitalize on and seize new prospects as opposed to merely responding to change. For technological leadership, this entails the early recognition of new prospects.

#### **4.10.6 Entrepreneurial Orientation, Environmental Factors and MSME Growth**

The study further advanced the hypothesis that environmental factors do not significantly moderate the relationship between entrepreneurial orientation and MSME growth ( $H_{06}$ ). Based on the findings ( $\beta = .0092$ ,  $p = .040 < .05$ ), the study rejects the sixth null hypothesis. This is of the implication that environmental factors are likely to accelerate the extent to which owners/managers innovate, take risk and seek out opportunities, leading to growth. MSME owners/managers seek to respond to dynamic environmental factors including changing policy and regulatory environments, increased competition and limited government support services by innovating with a view to grow. These include developing innovative strategies aimed at increasing both quality and quantity of produced goods, developing lean production systems and practices reduce production costs and overheads, and acquiring skilled labor to enhance productivity which results in improved profitability and MSME growth.

The findings also imply that with increased unaffordability and uncertainty of both the policy and market environments, the need to develop strategies for purposes of business survival and growth increases among MSME owners/managers. They are particularly prompted to take calculated risks by harnessing the limited resources at their disposal including finances, equipment, technology, knowledge and human resources by deploying them into venturing into producing new products and new markets as well as experimenting new production process and operations with a view to realize business survival and growth.

The findings further imply that the dynamic policy and business environments motivate proactive MSME owners/managers to anticipate future market needs based on the trends in policy formulations, competitor action and customer preferences. This puts them at a vantage position to adopt apt operational and production practices in anticipation of environmental changes, develop products in response to changing consumer preferences as well as establish forward-looking customer relationships with a view to foster business growth.

The findings agree with Distanont and Khongmalai (2018) whose results also revealed that speedy technology advancements influence the ability of leadership that is innovative to obtain up-to-date advancement in technology. Similarly, Tohidi and Jabbari (2017) found that innovation is influenced by competition among firms. This owes to innovation being a strategic instrument which is vital for sustainability, creation and improvement of business. As such, whereas manufacturing SMEs have restricted infrastructure to instigate innovations that are huge, rivals force them to innovate rapidly in some way with a view to have a strong competitive advantage and maintain their sustainability.

Accordingly, Aragón-Correa and Sharma (2016) aver that a business environment risk and uncertainty, changed policy environments, asymmetry of information between a firm and a client, and managerially apparent hostility, complexity, and uncertainty in a general business context are among the deterrent factors towards risk taking by entrepreneurs, which in the end have implications on their business performance. Li and Atuahene-Gima (2017) conversely argue that in a business environment that is uncertain, business leaders are inspired to scout for outside information from stakeholders, shape processes and structures of administration to propagate strategic proactivity, allow for an identification of prospects, and research on innovative ways to deal with environmental futures that are unanticipated in indulgence with stakeholders. They therefore have a higher likelihood of taking risks by deploying and developing their capabilities to produce an environmental strategy which will help them respond and anticipate, as opposed to reacting.

This is consistent with Buysse and Verbeke (2016) who report that firms whose managers view their external stakeholders as crucial have a higher likelihood of developing environmental strategies that are proactive, in comparison to those which focus on sets that are narrow. Similarly, Henriques and Sadorsky (2016) found that firms which are environmentally proactive reply to their stakeholders through the development of resources and policies required to actively address their plight since a capability to deal with stakeholder pressures is a major indicator of effectiveness of an organization.



#### **4.10.7 Entrepreneurial Orientation, Firm Strategic Capabilities and MSME Growth**

The study stated the seventh null hypothesis that environmental factors do not significantly moderate the relationship between firm strategic capabilities and MSME growth ( $H_{07}$ ). Based on the findings ( $\beta = .0029$ ,  $p = .6240 > .05$ ), the study fails to reject the null hypothesis. It is deduced that environmental factors do not determine how MSMEs' strategic capabilities influence MSME growth. This can be accredited to different MSMEs being resourced differently and therefore exhibit different levels of sensitivity to the external environment and that the proportion of resources MSMEs divert to strategic functions in response to changing environmental factors is significantly minimal and low. As such, the combined effect of environmental factors and firm strategic capabilities are negated by other confounding factors including the MSME owner/manager characteristics such as innovativeness, risk propensity and proactiveness which have been found to strongly, positively and significantly determine MSME growth.

The finding concurs with Kithusi (2015) whose study on the furniture sector in Nairobi found that among MSMEs, the association between firm performance and firm resources was not significantly moderated by the external environment. The finding is however in contrast with Jaoua (2014) who demonstrated in his study that the environment is positively and directly associated with strategic management adoption and that the association between global performance and strategic management seems to be moderated by environment. The more turbulent, uncertain, complex, and dynamic the environment is, the stronger the extent to which strategic management is adopted. The inconsistency could be explained by difference in

methodology. While this study focused on MSME growth, Jaoua (2014) focused on global performance.

#### **4.10.8 Entrepreneurial Orientation, Firm Strategic Capabilities, Environmental Factors and MSME Growth**

It was finally hypothesized that environmental factors do not moderate the indirect relationship between entrepreneurial orientation and MSME growth via firm strategic capabilities ( $H_{08}$ ). Findings provide evidence to fail to reject the hypothesis ( $\beta = -.0021$ ,  $P = .7384 > .05$ ). It is implied that the high intensity at which MSMEs' owners/managers innovate negates the combined effect of adverse environmental factors and limited firm strategic capabilities leading to growth. This can be attributed to the ability of innovative MSME owners/managers to navigate challenging policy and business environmental conditions as well as limited strategic capabilities by devising innovative production, process, operational and marketing strategies that result in improvement in production process, efficiency in production process and operations as well as effective marketing practices leading to MSME growth.

The findings further mean that the high-risk appetite among MSMEs' owners/managers negates the combined effect of adverse environmental factors and limited firm strategic capabilities leading to growth. Risk taking MSME owners/managers are able to overcome challenging policy and market environments as well as internal resource constraints and take full advantage of business opportunities and acquire pertinent resources that enable them improve production practices, improve access to markets, form strategic alliances and increase production leading to growth.

The finding also implies that the intense proactivity among MSMEs' owners/managers negates the combined effect of adverse environmental factors and limited firm strategic capabilities leading to growth. Proactive owners/managers are able to maneuver challenging policy and market environments and limited strategic capabilities, scout for market opportunities, track changing consumer preferences and behavior and initiate production practices leading to increased production, customer-base and sales leading to growth.

The finding is in contrast with Muthuvelayutham and Jeyakodeeswari (2014) who established in their study a significant association between performance and strategic orientations under a new context significantly moderated by environmental munificence. In their study, the two way interactions between strategic orientation (innovation and marketing orientation) and environment munificence had positive effect on individual performance of the firm. The difference could also be attributed to fact that whereas firm performance, which was the focus in Muthuvelayutham and Jeyakodeeswari (2014), is realized in the short term, firm growth which was the focus in this study is realized in the long run.

This is in contrast with Kraus, Rigtering, Hughes and Hosman (2011) whose study found that a company whereby the extent of EO is not aligned with the level of environmental turbulence and market intelligence risks producing business performance that is inferior, especially in the context of risk-taking dimension. Business performance was significantly associated with risk-taking, but only when their association with market turbulence is accounting for. The interaction between turbulence and risk-taking was negatively and significantly associated with SME

business performance. It was concluded that risk taking presupposes a basis in market intelligence for more calculated and better-informed risk decisions.

Accordingly, Zainuddin (2016) found that with increased market turbulence, firms are likely to require rearrangement of their technological innovation capability to meet the evolving customer needs. Those businesses in low market turbulence however have a less likely of needing such adjustments. Market turbulence that is high with customer needs that are fast changing stimulates companies to learn proactively about the alterations; they also require to regularly identify rearrangements of their capabilities and resources such as technological innovation capability to tackle changes in the market in novel ways and can exploit market demands that are rapidly changing and improve performance.

Table 4.37 presents a summary of all the hypotheses stated and their corresponding test results.

**Table 4.37: Summary of Hypotheses and Test Results**

<i>Hypothesis</i>	<b>Verdict</b>
<b>H<sub>01</sub>:</b> Entrepreneurial orientation does not have a significant effect on MSME Growth	Reject
<b>H<sub>02</sub>:</b> Entrepreneurial orientation does not have a significant effect on Firm Strategic Capabilities	Reject
<b>H<sub>03</sub>:</b> Firm strategic capabilities do not have a significant effect on MSME Growth	Reject
<b>H<sub>04</sub>:</b> Firm Strategic Capabilities do not significantly mediate the relationship between entrepreneurial orientation and MSME Growth	Fail to reject
<b>H<sub>05</sub>:</b> Environmental factors do not significantly moderate the relationship between entrepreneurial orientation and Firm Strategic Capabilities	Fail to reject
<b>H<sub>06</sub>:</b> Environmental factors do not significantly moderate the relationship between entrepreneurial orientation and MSME Growth	Reject
<b>H<sub>07</sub>:</b> Environmental factors do not significantly moderate the relationship between firm strategic capabilities and MSME Growth	Fail to reject
<b>H<sub>08</sub>:</b> Environmental factors do not moderate the indirect relationship between entrepreneurial orientation and MSME Growth via Firm Strategic Capabilities	Fail to reject

**Source: Survey Data (2021)**

## CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

#### 5.1 Introduction

In this chapter, a summary of the major findings of the study are presented. The study then draws conclusions based on the study findings as well as the implications therefore for policy, practice and theory. The chapter further discloses limitations faced during this study and winds up with the proposed areas for further studies.

#### 5.2 Summary of Findings

The study assessed the moderated mediation role of environmental factors and firm strategic capabilities on the association between EO and growth of manufacturing sector MSMEs, in Nairobi County, Kenya. To achieve this object, the study formulated eight specific objectives that in turn informed the stated null hypotheses.

The first study objective was to determine how EO influences the growth of manufacturing sector MSMEs in Kenya. Owner/manager entrepreneurial orientation was operationalized by three measures established following a confirmatory factor analysis, including innovativeness, proactiveness and risk propensity. A majority of respondents were found to highly agree with innovativeness as their entrepreneurial attribute ( $\bar{X}=4.163$ ). Most respondents particularly highly affirmed that they emphasize on research and development in their business and actively introduce improvements and innovations in their business. A majority of respondents highly affirmed to being risk taking ( $\bar{X}=4.088$ ). A majority highly agreed that they tend to act boldly in situations where risk is involved and that they have a strong tendency for high-risk business ideas. A majority of respondents further highly affirm to being proactive ( $\bar{X}=4.202$ ). More specifically, a majority highly agreed that they act in

anticipation of future business needs and that they continuously monitor market trends and identify future customer needs. Accordingly, the study tested the null hypothesis that entrepreneurial orientation does not have a significant effect on MSME Growth ( $H_{01}$ ). Results indicate that controlling for age and sub-sector, entrepreneurial orientation has a significant effect on MSME growth at 95% confidence level ( $\beta=.139$ ,  $p=.012<.05$ ). The null hypothesis is therefore rejected.

The second objective of the study was to establish the effect of entrepreneurial orientation on firm strategic capabilities among manufacturing sector MSMEs in Kenya. Descriptive statistics for firm strategic capabilities revealed that a majority of respondent MSMEs moderately to highly affirm to firm resource endowment ( $\bar{X}=3.907$ ). A majority were particularly in high agreement that their employees have the suitable education to fulfill their jobs and that their businesses carry out training frequently. A majority of respondents also highly affirmed to market orientation ( $\bar{X}=4.578$ ). A majority specifically highly agreed that their businesses have a good image/reputation and that their businesses have an excellent customer service reputation. Accordingly, the study tested the null hypothesis that entrepreneurial orientation does not have a significant effect on firm strategic capabilities ( $H_{02}$ ). Controlling for enterprise Age and Sub-sector, entrepreneurial orientation was found to have a significant effect on firm strategic capabilities at 95% confidence level ( $\beta=.276$ ,  $p=.000<.05$ ) and the hypothesis was therefore rejected.

The third study objective was to examine the effect of firm strategic capabilities on the growth of manufacturing sector MSMEs in Kenya. This informed the null hypothesis that firm strategic capabilities do not have a significant effect on MSME Growth ( $H_{03}$ ). Controlling for enterprise Age and Sub-sector, firm strategic

capabilities was found to have a significant effect on MSME growth at 95% confidence level ( $\beta=.124$ ,  $p=.000<.05$ ) and the hypothesis was therefore rejected.

The fourth objective of the study was to assess the mediating effect of firm strategic capabilities on the association between EO and growth of manufacturing sector MSMEs in Kenya. Accordingly, the study tested the hypothesis that firm strategic capabilities does not a significant mediating effect on the relationship between entrepreneurial orientation and growth of manufacturing sector MSMEs in Kenya ( $H_{04}$ ). Controlling for enterprise Age and Sub-sector, firm strategic capabilities showed no significant mediating effect ( $\beta = .0617$ ,  $p = .111>.05$ ), with both the lower limit (-.0020) and the upper limit (.0273) including zero (0). The study therefore fails to reject the fourth hypothesis of the study stating that firm strategic capabilities do not significantly mediate the relationship between entrepreneurial orientation and MSME Growth ( $H_{04}$ ).

The fifth objective of the study was to assess the moderating effect of environmental factors on the relationship between entrepreneurial orientation and firm strategic capabilities among manufacturing sector MSMEs in Kenya. To this end, descriptive statistics for environmental factors revealed that a majority of respondents only moderately affirm to policy environment ( $\bar{X}=3.446$ ). A majority particularly highly agreed that business licensing requirements are minimized. A majority however only moderately affirmed that their businesses had benefitted from special tax exemptions and that health and safety regulations are business-friendly. A majority of respondents were also found to highly affirm to business support services by the government ( $\bar{X}=3.789$ ). A majority highly agreed that their businesses have benefitted from improved access to appropriate information and technology courtesy of government.



A majority of respondents further highly affirmed to competition ( $\bar{X}=4.456$ ) as an attribute of environmental factors. A majority particularly highly agreed that their industry requires that they constantly improve our marketing methods to stay ahead of competition and that their industry requires that they constantly improve their product process to stay ahead of competition.

The hypothesis that environmental factors do not have a significant moderating influence on the association between entrepreneurial orientation and firm strategic capabilities ( $H_{05}$ ) was then tested. It was established that controlling for Age ( $\beta = .0995$ ,  $p = .295 > .05$ ) and Sub-sector ( $\beta = .0144$ ,  $p = .303 > .05$ ) the interaction between entrepreneurial orientation and environmental factors was not significant at 95% confidence level ( $\beta = .0014$ ,  $p = .493 > .05$ ) with the lower limit (-.0026) and the upper limit (.0054) crossing zero (0), indicating no moderation. The study therefore fails to reject the null hypothesis that environmental factors do not have a significant moderating influence on the association between entrepreneurial orientation and firm strategic capabilities ( $H_{05}$ ).

The sixth objective of the study was to assess the moderating effect of environmental factors on the relationship between entrepreneurial orientation and growth of manufacturing sector MSMEs in Kenya. To address this, the null hypothesis that environmental factors do not moderate significantly the association between entrepreneurial orientation and MSME Growth ( $H_{06}$ ) was first tested. It was further established that controlling for Age ( $\beta = .7119$ ,  $p = .001 < .05$ ) and Sub-sector ( $\beta = .0431$ ,  $p = .161 > .05$ ) the interaction between entrepreneurial orientation and environmental factors was significant at 95% confidence level ( $\beta = .0092$ ,  $p = .040 < .05$ ) with both the lower limit (.0004) and the upper limit (.0180) above zero (0),

indicating moderation. The study therefore rejects the null hypothesis that environmental factors do not moderate significantly the association between entrepreneurial orientation and MSME growth ( $H_{06}$ ).

The seventh study objective was to assess the moderating effect of environmental factors on the relationship between firm strategic capabilities and growth of manufacturing sector MSMEs in Kenya. The objective informed the hypothesis that environmental factors do not moderate significantly the association between firm strategic capabilities and MSME Growth ( $H_{07}$ ). It was established that controlling for Age ( $\beta=.7265$ ,  $p=.001<.05$ ) and Sub-sector ( $\beta=.0474$ ,  $p=.1306>.05$ ) the interaction between firm strategic capabilities and environmental factors was not significant at 95% confidence level ( $\beta =.0029$ ,  $p=.6240>.05$ ) with both the lower limit (-.0087) and the upper limit (.0145) including zero (0), indicating no moderation. The study therefore fails to reject the hypothesis that environmental factors do not moderate significantly the association between firm strategic capabilities and MSME Growth ( $H_{06}$ ).

The eighth objective was to assess the moderating effect of environmental factors on the indirect relationship between entrepreneurial orientation and growth of manufacturing sector MSMEs in Kenya via firm strategic capabilities. It was established that controlling for Age and Sub-sector, the first interaction between entrepreneurial orientation and environmental factors was significant at 95% confidence level ( $\beta=.0098$ ,  $P=.041<.05$ ) with the lower limit (.0004) and the upper limit (.0192) both greater than zero (0) indicating moderation. The second interaction between the firm strategic capabilities (mediator) and environmental factors was however not significant at 95% confidence level ( $\beta=-.0021$ ,  $P=.7384>.05$ ) with the lower limit (-.0143) and the upper limit (.0102) including zero (0) indicating no

moderated mediation. The study therefore fails to reject the null hypothesis that environmental factors do not moderate the indirect relationship between entrepreneurial orientation and MSME growth via firm strategic capabilities (H<sub>08</sub>).

### **5.3 Conclusion of the Study**

It is concluded from the foregoing findings that entrepreneurial orientation has a significant effect on MSME growth. The findings make a notable addition to the body of knowledge in Kenya with respect to the direct effect of entrepreneurial orientation from a unidimensional conceptualization on MSME growth with specific reference to MSMEs in the manufacturing sector in Nairobi County, Kenya. More specifically, the study demonstrates that innovative owners/managers are more likely to experience growth in their MSMEs as opposed to non-innovative owners/managers. Risk taking owners/managers are also more likely to experience growth in their MSMEs as opposed to risk-averse owners/managers. Risk taking owners/managers are willing to engage in relatively high levels of risk-taking behavior which enables their MSMEs to seize profitable opportunities in the face of uncertainty which leads to long term profitability and eventual growth. Proactive owners/managers are similarly more likely to experience growth in their MSMEs as opposed to non-proactive owners/managers. Proactive owners/managers often lookout for prospects in the market and mobilize local raw materials to create unique services and goods which meet broad market demands or needs.

As such, this study validates findings in previous related studies in the extant literature that entrepreneurial orientation (Mirela, 2018; Mwangi & Ngugi, 2017; Etim *et al.*, 2017; Neneh & Zyl, 2017; Farja *et al.*, 2016; Calvo, 2016; Waithaka, 2016; Deschryvere, 2014; Jalali *et al.*, 2014; Gurbuz & Aykol, 2009) has a positive and significant effect on MSME growth. The study however contrasts extant studies that

report either no significant or negative effect of entrepreneurial orientation (Okangi, 2019; Hughes & Morgan, 2017; Yamoah, 2016; Yamoah, 2016; Kusumwardhani, 2019; Naldi *et al.*, 2007; Zhou & de Wit, 2009) on MSME growth. The study finally validates the proposed conceptual framework with respect the direct relationship between entrepreneurial orientation, and MSME growth.

It is also concluded that entrepreneurial orientation has a significant effect on firm strategic capabilities. The study findings are groundbreaking with regard to the direct effect of entrepreneurial orientation from a unidimensional conceptualization on firm strategic capabilities among MSMEs in the manufacturing sector, across international and regional contexts as well as in the Kenyan body of knowledge. The study particularly demonstrates that Innovative owners/managers are more likely to acquire key firm resources requisite in improving their enterprises' strategic capabilities. Also, the more the risk tolerant the owner/manager is, the higher the likelihood that they will acquire essential firm resources essential in building their enterprises' strategic capabilities. Proactive owners/managers are also more likely to acquire key firm resources necessary in building their enterprises' strategic capabilities as compared to non-proactive owners/managers. Whereas Nwankwo *et al.* (2016) edged close to this study, the study explored the effect of risk taking on organizational learning, which is a narrower construct of the broader concept of firm strategic capabilities. The finding therefore also validates the proposed conceptual framework with regard to the direct relationship between Innovativeness, Risk Propensity and Proactiveness as dimensions of Entrepreneurial Orientation, and firm strategic capabilities.

The study is also of the conclusion that firm strategic capabilities have a significant effect on MSME growth. The finding is a notable addition to the body of knowledge in respect to the direct effect of firm strategic capabilities on MSME growth with specific reference to the manufacturing sector, across international, regional and the Kenyan context. The study particularly demonstrates that the more resourced and strategic an MSME is, the more likely it is to experience growth. Among MSMEs, innovative owners/managers are more likely to acquire key firm resources requisite in improving their enterprises' strategic capabilities and eventually grow. Also, the more risk tolerant the owner/manager is, the higher the likelihood that they will acquire firm resources essential in building their enterprises' strategic capabilities and capital resources to facilitate growth. It is further demonstrated that among MSMEs, proactive owners/managers are more likely to acquire key firm resources necessary in building their enterprises' strategic capabilities and capital resources to facilitate growth as compared to non-proactive owners/managers. A closely related study, Kithusi (2015) explored the effect of firm resources on firm performance with reference to MSMEs in the Furniture sub-sector of the manufacturing industry. The finding further validates the proposed conceptual framework with regard to the direct relationship between firm strategic capabilities and MSME growth.

The study further concludes that firm strategic capabilities do not have a significant mediating influence on the association between entrepreneurial orientation and MSME growth. Among MSMEs, innovative, risk tolerant and proactive owners/managers are likely to achieve growth, regardless of their strategic capabilities. This may be attributed to both the lack of formal strategic plans among most micro and small businesses and their limited resource endowment in terms of

financial resource, cash flow and technological resources. To achieve growth in light of limited resources and absent formal strategic plans, innovative owners/managers are likely to innovate marketing strategies, develop and align internal operations for efficiency and establish relationships with suppliers which results in improved access to markets, efficiencies in operations, increased products and sales hence growth.

Entrepreneurial MSME owners/managers are also forward-looking, risk taking and proactive, creating new markets and market opportunities driven by gaps in the market which often earns them a market and product niche. This improves the MSMEs' competitive advantage as well as capacity to produce products with ready markets as opposed to their competitors resulting in growth. The finding thus invalidates the proposed conceptual framework with regard to the mediating effect of firm strategic capabilities on the relationship between entrepreneurial orientation and MSME growth. The finding is novel in the Kenyan body of knowledge with regard to the mediating influence of firm strategic capabilities on the association between entrepreneurial orientation and MSME growth in the manufacturing sector. The finding however contrasts a related finding by Keh, Nguyen and Ng (2007) who found that the use of information pertaining to marketing mix decisions (particularly the place and promotion elements) affects firm performance positively, and it mediates albeit partially, the linkage between firm performance and entrepreneurial orientation among SMEs in Singapore.

The study also concludes that that, environmental factors do not have a significant moderating effect on the relationship between entrepreneurial orientation and firm strategic capabilities. The findings imply that environmental factors neither accelerate nor inhibit the extent to which owners/managers innovate, take risks or are proactive,

leading to the acquisition of key firm resources and formulation of strategies leading to enhanced firm strategic capabilities. This may be attributed to MSME owners/managers leveraging their innovativeness, risk propensity and proactiveness to build strategic flexibility regardless of the policy and business environments given the uncertainty and turbulence.

Despite unfavorable policy environments and intensive competition for instance, entrepreneurial MSME owners/managers continue to innovate their products, process, marketing and internal operations which earns them strategic flexibility. Further, despite adverse policy and regulatory environments, increased competition and minimal government support services, entrepreneurial MSME owners/managers are risk taking by nature, investing in new equipment, technologies and strategies including joint ventures, collaborations, alliances and networking with a view to increase their capacity to survive and remain competitive in the market. Entrepreneurial MSME owners/managers also constantly seek new market opportunities, new ideas and new strategies, seek gaps in the market and initiate action with a view to stay ahead of competition regardless of the environment. The finding there invalidates the proposed conceptual framework with regard to the moderating effect of environmental factors on the relationship between entrepreneurial orientation and firm strategic capabilities. The finding supports assertions by Sharma and Vredenburg (2018), Marcus and Geffen (2018) and Dvir *et al.* (2016).

The study further concludes that environmental factors have a significant moderating effect on the relationship between entrepreneurial orientation and MSME growth. The findings are also of significant contribution to empirical literature internationally,

regionally and locally in Kenya with respect to the moderating effect of environmental factors on the relationship between entrepreneurial orientation and MSME growth. The study particularly provides evidence to suggest that environmental factors are likely to accelerate the extent to which owners/managers innovate leading to growth. It is shown in this regard that MSME owners/managers seek to respond to dynamic environmental factors including changing policy and regulatory environments, increased competition and limited government support services by innovating with a view to grow.

The study further demonstrates that environmental factors are likely to accelerate the degree to which owners/managers take risks leading to growth. With increased unaffordability and uncertainty of both the policy and market environments, the need to develop strategies for purposes of business survival and growth increases among MSME owners/managers. The study findings also show that environmental factors are more likely to accelerate the proactivity of owners/managers leading to growth. The dynamic policy and business environments motivate proactive MSME owners/managers to anticipate future market needs based on the trends in policy formulations, competitor action and customer preferences. The findings also lead to the validation of the proposed conceptual framework with regard to the moderating effect of environmental factors on the relationship between innovativeness, risk propensity and proactiveness and MSME growth. The finding validates Tajeddini and Mueller (2019) who found that a highly dynamic environment enhances the positive influence of entrepreneurial orientation on financial performance.

The study also makes a groundbreaking contribution to the extant body of knowledge internationally, regionally and in the Kenyan context in its conclusion that environmental factors do not have a significant moderating effect on the relationship



between firm strategic capabilities and MSME growth. The study particularly evidences through its findings that environmental factors do not determine how MSMEs' strategic capabilities influence MSME growth. The study attributes this to the fact that different MSMEs are resourced differently and therefore exhibit different levels of sensitivity to the external environment and that the proportion of resources MSMEs divert to strategic functions in response to changing environmental factors is significantly minimal and low. Against this backdrop, the study findings invalidate the proposed conceptual framework with regard to the moderating effect of environmental factors on the relationship between firm strategic capabilities and MSME growth. Similar findings were reported by Kithusi (2015) albeit focusing on firm performance.

The study further makes an eminent contribution to the extant body of knowledge internationally, regionally and in the Kenyan context concluding that environmental factors do not moderate the indirect relationship between entrepreneurial orientation and MSME growth via firm strategic capabilities. To this end, the study particularly provides evidence to show that the high intensity at which MSMEs' owners/managers innovate, take risks and are proactive negates the combined effect of adverse environmental factors and limited firm strategic capabilities leading to growth. The study attributes this to the ability of innovative, risk taking and proactive MSME owners/managers to navigate challenging policy and business environmental conditions as well as limited strategic capabilities by devising innovative production, process, operational and marketing strategies that result in improvement in production process, efficiency in production process and operations as well as effective marketing practices leading to MSME growth. Against this backdrop, the study findings invalidate the proposed conceptual framework with regard to the moderating

effect of environmental factors on the indirect relationship between entrepreneurial orientation and MSME growth via firm strategic capabilities.

In conclusion, the study puts forth the thesis the high levels of entrepreneurial orientation among MSME owners/managers negates the combined effect of adverse environmental factors and limited firm strategic capabilities resulting in MSME growth. This established from both the strong, positive and significant direct effect of EO on MSME growth ( $\beta=.139$ ,  $p<.05$ ); and the weak, negative and non-significant moderated mediating effect of EF on the relationship between EO and growth via FSC ( $\beta=-.002$ ,  $P>.05$ ). The study attributes this to the ability of entrepreneurially oriented MSME owners/managers to navigate challenging environmental conditions and limited strategic capabilities by devising innovative production and operational practices, proactively seeking for opportunities and markets and taking risks by trying out new products, processes and markets hence growth.

#### **5.4 Implications of the Study**

In light of the foregoing findings, the following recommendations with implications to policy, practice, theory and methodology are hereby made. The objective is to support the growth of manufacturing sector MSMEs in the country by recommending sound and informed policies and adequate management practice. Further, whereas the study contributes significantly to academic knowledge the gaps herein will be pointed out and suggested as areas for further studies.

##### **5.4.1 Implications to Theory**

This study was anchored on four theories, including the contingency fit view theory (Lumpkin & Dess, 1996), the Dynamic Capability Theory (DCT) by Teece *et al.* (1997), the Economic Theory of Entrepreneurship by Papanek (1962) and the life

cycle theory (Churchill & Lewis (1983). Predictions of the contingency fit view theory were confirmed as they underscored how environmental factors including policy environment, competition and government support services interact with owner/manager entrepreneurial orientation to affect the growth of manufacturing sector MSMEs in Kenya. Firm strategic capabilities, which constitute factors internal to the business, was also found to have a significant effect on MSME growth in line with the theory.

The assertions by DCT theories have also been confirmed in this study, in that, firm strategic capabilities, which entail both firm resources and market orientation, has been found to significantly determine MSME growth. As such, MSMEs with more resource capabilities are more likely to experience growth compared to MSMEs with less resource capabilities. The study findings further validate the economic theory of entrepreneurship by Papanek (1962) and Harris (1970). It was particularly demonstrated in this regard that environmental factors, particularly government's regulations and policies interact with the entrepreneurial orientation to significantly determine MSME growth, implying that economic incentives are the main forces for entrepreneurial activities in the country. Assertions by the life cycle theory were also confirmed in this study, in that, environmental factors which constitute factors external to the business, were found to significantly moderate the relationship between owner/manager EO and MSME growth.

#### **5.4.2 Implications to Policy**

The study recommends that government formulates supportive policies that encourage EO and strategic capacity building among manufacturing MSMEs through trainings, access to credit, common equipment facilities, business incubation centres, technology transfer and creating local markets. The study further recommends that

government supports the adoption of digital transformation technologies to enhance their productivity, efficiency and improved customer experienced for enhanced firm strategic capabilities.

Equally, a transparent and effective regulatory setting is key for MSME development and entrepreneurship at all levels of the life cycle of the business, including expansion, entry, transfer, investment and exit. Lessening the manufacturing sector's regulatory burden for MSMEs may facilitate their involvement in the formal economy, assist in improving their competitiveness and productivity, and enhance their involvement in and benefit from an economy that is internationally integrated.

In view of the limited firm strategic capabilities by a majority of MSMEs in the country's manufacturing sector, it is recommended that policies be formulated to encourage lending to MSMEs in the manufacturing sector. A fund ought to be particularly established and targeted exclusively at MSMEs in the manufacturing sector. This will encourage not only local manufacturing and growth of manufacturing firms, but also increased manufacturing for export purposes, increasing the sectors contribution to the GDP as well as employment creation.

The study also recommends that business infrastructure and ecosystems be enhanced and supported to stimulate and encourage growth determination among manufacturing sector MSMEs in the country. This entails but is not restricted to: private sector support through public-private partnerships to produce business support to manufacturing sector MSMEs; practical and impactful business education for manufacturing sector MSMEs with the aim of providing MSMEs with the appetite to internationalize and innovate; as well as ensuring that a vast array of accessible support programmes is accessible in the manufacturing sector.

### **5.4.3 Implications to Entrepreneurship Practice**

In this study, entrepreneurial orientation has been found to positively and significantly influence MSME growth. The study therefore recommends that manufacturing sector MSMEs looking to encourage growth ought to be innovative, taking moderate levels of risk and stay proactive. MSME owners/managers in the manufacturing sector are particularly advised to practice innovativeness by regularly introducing improvements on both their existing products and the production process by adopting digital transformation technologies. MSME owners/managers are also advised to explore new ways to access new markets, such as use of online platforms for marketing. MSME owners/managers are further encouraged to take moderate risks and anticipate future opportunities in terms of consumer demands, products, markets and technologies.

The business environment for manufacturing sector has also been found to be highly competitive. As such, there is need for MSME owners/managers to develop, implement and inspire, risk taking and proactivity in their businesses to enhance competitiveness. MSME managers/owners are particularly advised to consider adopting innovation strategy with a view to enhance their businesses' competitiveness. This ought to entail significant improvements in their organizational methods, processes, products and marketing and introducing thoroughly new organizational methods, processes, products and marketing techniques. MSMEs may in addition consider making improvements to their present products with regard to technical features, user friendliness, material used and functionality with regard to design, weight and shape. Improvements may also be made on the technology adopted in their production processes, particularly production process efficiency, techniques and delivery. Additionally, owners/managers may consider executing significant

improvements in marketing methods, packaging, product design, placement in new markets, pricing and promotion.

#### **5.4.4 Implications to Research**

This study was grounded on the Positivist philosophy in which quantitative methodologies and techniques including quantitative data collected by closed-ended questionnaires, as well as descriptive analysis, inferential analysis and statistical hypothesis tests were employed. The study findings, having made groundbreaking contributions to the body of knowledge validate the Positivist philosophy, the quantitative methodologies and the techniques employed.

This study further adopted a mix of cross-sectional survey and explanatory research designs as they were found most appropriate both in data collection by use of primary data collected by structured questionnaires and for realizing the research objectives which entails both descriptive accounts of the variables explored in the study articulation of relationships between and among the conceptualized variables. The study findings further lead to the validation of the research designs adopted.

The study further adopted Hayes' (2013) regression models 4 and 59 to test for the direct relationships, mediations, moderation and moderated mediations within SPSS. Based on the versatility of statistical operations performed leading to the hypothesis tests and the groundbreaking contributions to literature, the study findings validate Hayes' (2013) regression models 4 and 59.

#### **5.5 Limitations of the Study**

The main limitation faced in the study was generalization of findings to all MSMEs in the country, as MSMEs outside the manufacturing sector could have factors unique to their respective sub-sectors which were not subject in this study. To address this

limitation, the study generalized the recommendations only to the manufacturing sector MSMEs. The study also suggested further studies be conducted in other sub-sectors to determine any similarities, patterns and trends.

Further, this study adopted a cross-sectional design. It was therefore not possible to track MSME growth in terms of possible transitions through the growth stages. To address this, it is suggested that future studies adopt a longitudinal design with a view to track MSME growth on a time series basis to determine how business grow from start-up to maturity and eventual decline. Also, questionnaire filling and returning depended on the participants' willingness and time availability, exposing the study to non-response. The "drop and pick" technique was adopted to address this, where participants were given ample time to fill the questionnaire at their convenience after which they informed the researcher when dully filled for collection. Despite the above limitations, the quality of the study was not compromised. The researcher affirms that the drawbacks presented did not in any way influence the results the thesis development, output and research design.

### **5.6 Suggestions for Further Studies**

This study focused on manufacturing sector MSMEs within Nairobi County, Kenya. Owing to the nature of variables explored in the study, particularly environmental factors, it would be expected that MSMEs across the country and different sectors are subjected to different policy environments at the county levels, different levels of competition, as well as different levels of government support services. As such, the study recommends that future studies focus on other counties other than Nairobi as well as other sectors in order establish any pertinent similarities and trends.

Further, this study adopted a combination of cross-sectional survey and explanatory research designs. It was therefore not possible to track MSME growth in terms of possible transitions through the growth stages. It is thus suggested that future studies adopt a longitudinal design with a view to track MSME growth on a time series basis to determine how business grow from start-up to maturity and eventual decline. This study used structured questionnaires for collection of quantitative data. This limited responses to the predetermined responses, and no room for unanticipated responses, which could lead to more insight. To address this, the study suggests that future studies use open-ended questionnaires to capture responses that might not be anticipated at the design of the questionnaires. This will provide richer insights from the MSME owners/managers with regard to the variables explored in the study.

The study employed a unidimensional conceptualization of entrepreneurial orientation. It is recommended that future studies employ a multidimensional conceptualization with a view to establish any points of convergence or divergence with the present study findings. The study also operationalized entrepreneurial orientation through the three dimensions proposed by Miller (1983). Future studies could adopt the five dimensions as proposed by Lampin and Dess (1986). This will enrich the body of knowledge in the Kenyan literature with regard to the conceptualization of entrepreneurial orientation.

The hypothesis test results were surprising to the researcher, having failed to find a statistically significant mediating effect of firm strategic capabilities on the relationship between entrepreneurial orientation and MSME growth; a significant moderating effect of environmental factors on the relationship between firm strategic capabilities and MSME growth; and a significant moderating effect of environmental



factors on the indirect relationship between entrepreneurial orientation and MSME growth via firm strategic capabilities. As this may have been attributed to conceptualization and analytical operations, it is suggested that future studies reverse the conceptualization and analytical operations, with environmental factors as mediating and firm strategic capabilities as moderating variables respectively.

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## APPENDICES

### Appendix I: Research Questionnaire

Dear Respondent,

My name is Eng. John Mosonik, a Doctorate student at Moi University. I am undertaking an academic research on **“The Moderating Role of Environmental Factors on the Relationship between Entrepreneurial orientation, and the Mediating Role of Firm Strategic Capabilities on Growth of MSMEs in Manufacturing Sector in Nairobi County, Kenya”** in Kenya. Kindly take a few minutes of your precious time and fill in this questionnaire. Kindly fill in your responses by ticking in the appropriate box or writing your answers on the spaces provided. The data collected shall be used only for academic research and shall be treated with strict confidence.

Your participation in facilitating the study is highly appreciated.

#### Section A: Demographic Characteristics

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- 1 Location of the business .....
- 2 For how long have you owned/managed this business?
 

Less than 3 years	{ }	3-6 years	{ }
7-10 years	{ }	Over 10 years	{ }
- 3 How long has your business been in operation?
 

Less than 3 years	{ }	3-6 years	{ }
7-10 years	{ }	Over 10 years	{ }
- 4 Please indicate the number of your employees
 

Less than 10	{ }	10-49	{ }	50-100	{ }
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- 5 Which of the following line of manufacturing does your business belong in?
 

Textile & Apparels	{ }	Food and Beverage	{ }
Leather	{ }	Timber	{ }



Paper and board { }                      Agriculture/Fresh Produce { }  
 Automotive { }                              Iron & Steel { }  
 Chemicals & Pharmaceutical { }  
 Other  
 (Specify).....

### Section B: Entrepreneurial Orientation

On a scale of 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree) and 5 (strongly agree) please rate the following statements as relates to your behavioral characteristics

<b>Innovativeness</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
I emphasizes on utilizing new technology in our business					
I actively introduce innovations and improvements in our business					
Changes in our product or service lines have been quite fast					
I encourage development of employees' ideas for the purpose of business improvement					
I am willing to try new ways of doing things and seek novel solutions					
We inspire employees to behave and think in distinctive and original ways					
I emphasize on research and development in our business					
When learning new things, I desire to try my own inimitable way as opposed to doing it however everybody else does					
<b>Risk propensity</b>					
With new ideas, I am strongly inclined to take informed risks					
There is a strong tendency, in our firm for high-risk projects					
I tend to take brave action by engaging in the unknown					
I am ready to put in a lot of money and/or time on a venture that could result in a high return					
I tend to act 'boldly' in situations where risk is involved					
In general, our business has a strong inclination towards high-risk projects					
Owing to the environment, our business believes that bold, wide-ranging acts are necessary to achieve the business' objectives					
In our business, the term "risk-taker" is regarded a positive quality for staffs					
<b>Proactiveness</b>					
I act in anticipation of future needs					
I typically initiates actions in my business that rivals react to					
I consistently seek out new services/products					
I continuously monitor market trends and identifies future needs of customers					
My/our business has an intensive drive towards its goals					

I prefer planning beforehand on projects					
I tend to rise to the occasion and be hands-on in projects rather than siting and waiting for things to be done by someone else					

### Section C: Firm Strategic Capabilities

On a scale of 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree) and 5 (strongly disagree), please rate the following statements as relates to your business.

<b>Firm Resources</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Our business has sufficient equipment for execution of our business goals					
Our business has sufficient financial endowment to fund our business goals					
Our business has adequate inventory to finance our business activities					
Our business has sufficient cash flow to fund our enterprise activities					
Our business has sufficient technological endowment to run activities in our business					
Our staffs have the appropriate knowledge to carry out their jobs					
Our business frequently conducts training					
Our organizational culture is geared towards realizing a common goal					
Organizational structure is lean to enable efficiency in business operations					
Our organizational policies are geared towards realizing a common goal					
Our business has a good image/reputation					
Our business has an excellent customer service reputation					
<b>Market Orientation</b>					
We carry out adequate market research in the business					
Employees interact freely & directly with customers to learn how to serve their needs better					
We do anticipate for new business opportunities					
We slowly detect changes in customer preferences					
We are very slow to detect fundamental shifts in our industry (such as; competition, new entrants, new customers trends).					
We quickly understand new opportunities to serve our customers better than our competitors.					
We have a reliable business network for sharing business ideas					
We have the ability to respond flexibly to customers'					

special needs and requirements					
We have good relations with distribution channels					
Before start of production and sales I inquire what the customer requires in an organized way					

### Section D: Environmental Factors

On a scale of 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree) and 5 (strongly disagree), please rate the following statements as relates to your business

<b>Policy Environment</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Business licensing requirements are minimized					
Financial sector regulations (banking, insurance, leasing) recognize MSME constraints					
Environmental regulations are business-friendly					
Health and safety regulations are business-friendly					
Our business has benefitted from at least one government fund: <i>Women Enterprise Fund, Uwezo fund, Local Authority Transfer Fund, Youth Enterprise Development Fund and Constituency Development Fund</i>					
Our business has benefitted from special tax exemptions					
Our business has benefitted from investment promotion incentives					
Our business has benefitted from export promotion incentives					
Our business has benefitted from government initiated training					
Our business has benefitted from improved access to appropriate information and technology courtesy of government					
Our business has benefitted from improved access to markets					
<b>Competition</b>					
Our business has adopted use of mobile money and card payments to outdo competition					
Our business has expanded to regional markets to counter competitor dominance					
Our business has built brand presence through social media					
Our business identifies competitors and determine the reasons for their success and considers this in our strategy formulation					
We conduct SWOT analysis to determine our competitiveness relative to competitors					
We invest adequately in innovation in order to design and develop products aimed at the worldwide market					
We constantly improve our marketing methods to stay ahead of competition					
We constantly improve our organizational methods/ systems to stay ahead of competition					
We constantly improve our product process to stay ahead of competition					
We constantly improve our market knowledge to stay ahead of competition					

### Section E: Msme Growth

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On a scale of 1 (Not at all), 2 (To a small extent), 3 (To a moderate extent), 4 (To a great extent) and 5 (To a very great extent), please rate the following measures of growth as relates to your business, in the las three years.

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Our total sales have grown in the last 3 years					
Our net profit has grown in the last 3 years					
Our number of employees has grown in the last 3 years					
Our value of assets has grown in the last 3 years					
Our market share has grown in the last 3 years					
Our production capacity has grown in the last 3 years					

*Thank you for your participation*

## Appendix II: Missing Value Analysis

	N	Mean	Std. Dev	Missing	
				Count	Percent
For how long have you owned/managed this business?	312	3.2372	.75323	0	.0
How long has your business been in operation?	312	3.3333	.72470	0	.0
Please indicate the number of your employees	312	1.8462	.79511	0	.0
Which of the following line of manufacturing does your business belong in?	312	8.0000	4.90750	0	.0
I emphasize on utilizing new technology in our business	312	4.1314	.45226	0	.0
I actively introduce innovations and improvements in our business	312	4.1827	.38703	0	.0
Changes in our product lines have been quite fast	312	4.1250	.58416	0	.0
I inspire employees to behave and think in distinctive and original ways	312	4.1474	.44367	0	.0
I emphasize on research and development in our business	312	4.1987	.43066	0	.0
When learning new things, I desire to try my own inimitable way as opposed to doing it however everybody else does	312	4.1955	.49132	0	.0
With new ideas, I am strongly inclined to take informed risks	312	3.9071	.63221	0	.0
I am strongly inclined toward high-risk business ideas	312	4.1731	.38731	0	.0
I tend to take brave action by engaging in the unknown	312	4.1346	.53898	0	.0
Where risk is involved, I am inclined to act confidently	312	4.1795	.43166	0	.0
I am ready to put in a lot of money and/or time on a venture that could result in a high return	312	3.9679	.57739	0	.0
In our business, the term "risk-taker" is regarded a positive quality for staffs	312	4.1667	.47892	0	.0
I act in anticipation of future business needs	312	4.3397	.60541	0	.0
I typically initiate actions in my business that rivals react to	312	4.1859	.40582	0	.0

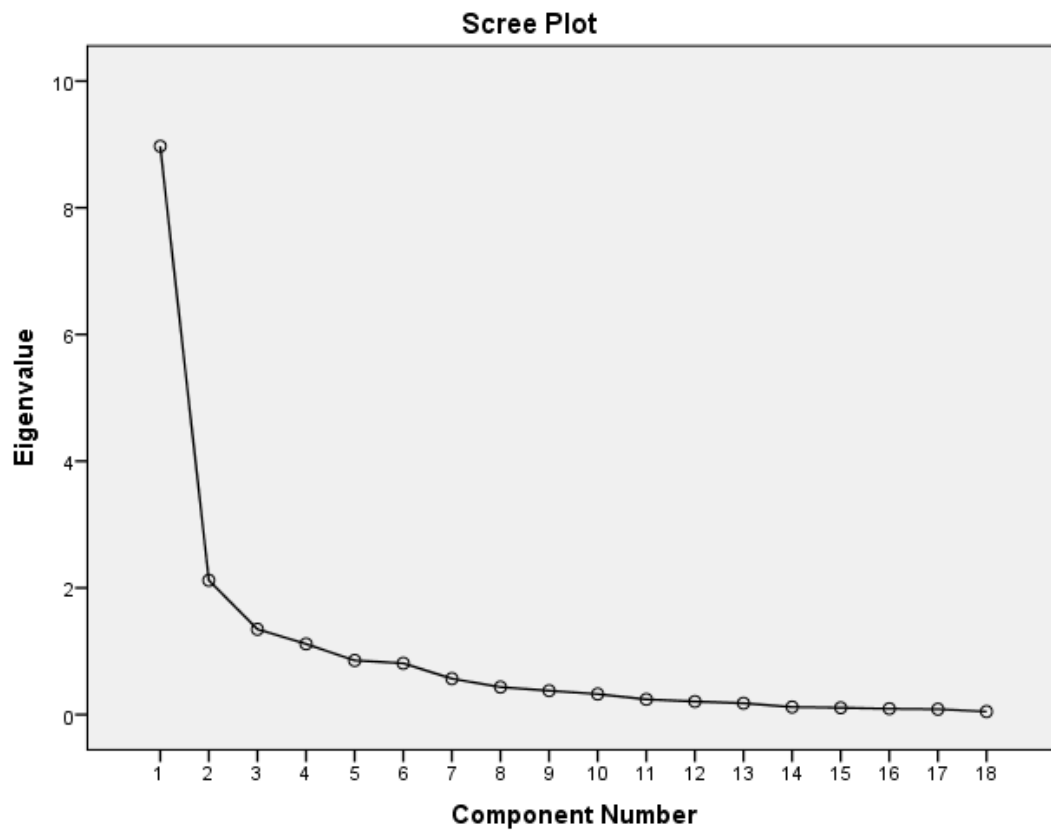
I consistently seek out new services/products	312	4.1635	.48997	0	.0
I consistently monitor trends in the market and identify prospective customer needs	312	4.1763	.46520	0	.0
I prefer planning beforehand on projects	312	4.1506	.55536	0	.0
I tend to rise to the occasion and be hands-on in projects rather than siting and waiting for things to be done by someone else	312	4.1955	.57570	0	.0
Our business has sufficient equipment for execution of our business goals	312	4.0224	1.04688	0	.0
Our business has sufficient financial endowment to fund our business goals	312	3.2147	1.11496	0	.0
Our business has sufficient cash flow to fund our enterprise activities	312	3.3237	1.05523	0	.0
Our business has sufficient technological endowment to run activities in our business	312	3.5385	1.01363	0	.0
Our staffs have the appropriate knowledge to carry out their jobs	312	4.6667	.47216	0	.0
Our business frequently conducts training	312	4.6731	.46984	0	.0
Our business has a good image/reputation	312	4.6474	.53561	0	.0
Our business has an excellent customer service reputation	312	4.5929	.54774	0	.0
We carry out adequate market research in the business	312	4.5577	.51649	0	.0
Employees interact directly and freely with our customers with a view to determine how to better serve their needs	312	4.5513	.51716	0	.0
We anticipate new business opportunities and shifts in our industry	312	4.5449	.51776	0	.0
We slowly detect changes in customer preferences	312	4.5705	.49580	0	.0
Business licensing requirements are minimized	312	4.0224	1.04688	0	.0
Health and safety regulations are business-friendly	312	3.2147	1.11496	0	.0
Our business has benefitted from at least one government fund: Women Enterprise Fund, Uwezo fund, Local Authority Transfer Fund, Youth Enterprise Development Fund and Constituency Development Fund	312	3.2147	1.11496	0	.0
Our business has benefitted from special tax exemptions	312	3.3237	1.05523	0	.0

Our business has benefitted from investment promotion incentives	312	3.5385	1.01363	0	.0
Our business has benefitted from export promotion incentives	312	4.6667	.47216	0	.0
Our business has benefitted from government initiated training	312	4.6667	.47216	0	.0
Our business has benefitted from improved access to appropriate information and technology courtesy of government	312	4.6731	.46984	0	.0
Our business has benefitted from improved access to markets	312	4.6474	.53561	0	.0
Our industry requires that we invest adequately in innovation in order to design and develop products aimed at the worldwide market	312	4.5929	.54774	0	.0
Our industry requires that we constantly improve our marketing methods to stay ahead of competition	312	4.5513	.51716	0	.0
Our industry requires that we constantly improve our organizational methods/ systems to stay ahead of competition	312	4.5449	.51776	0	.0
Our industry requires that we constantly improve our product process to stay ahead of competition	312	4.5705	.49580	0	.0
Our industry requires that we constantly improve our market knowledge to stay ahead of competition	312	4.0224	1.04688	0	.0
Our total sales have grown in the last 3 years	312	3.8718	1.01891	0	.0
Our net profit has grown in the last 3 years	312	2.4487	.86960	0	.0
Our number of employees has grown in the last 3 years	312	3.9359	.99309	0	.0
Our value of assets has grown in the last 3 years	312	4.2468	.78572	0	.0
Our market share has grown in the last 3 years	312	3.1827	.57991	0	.0
Our production capacity has grown in the last 3 years	312	4.1667	.88090	0	.0
Valid N (Listwise)	312				

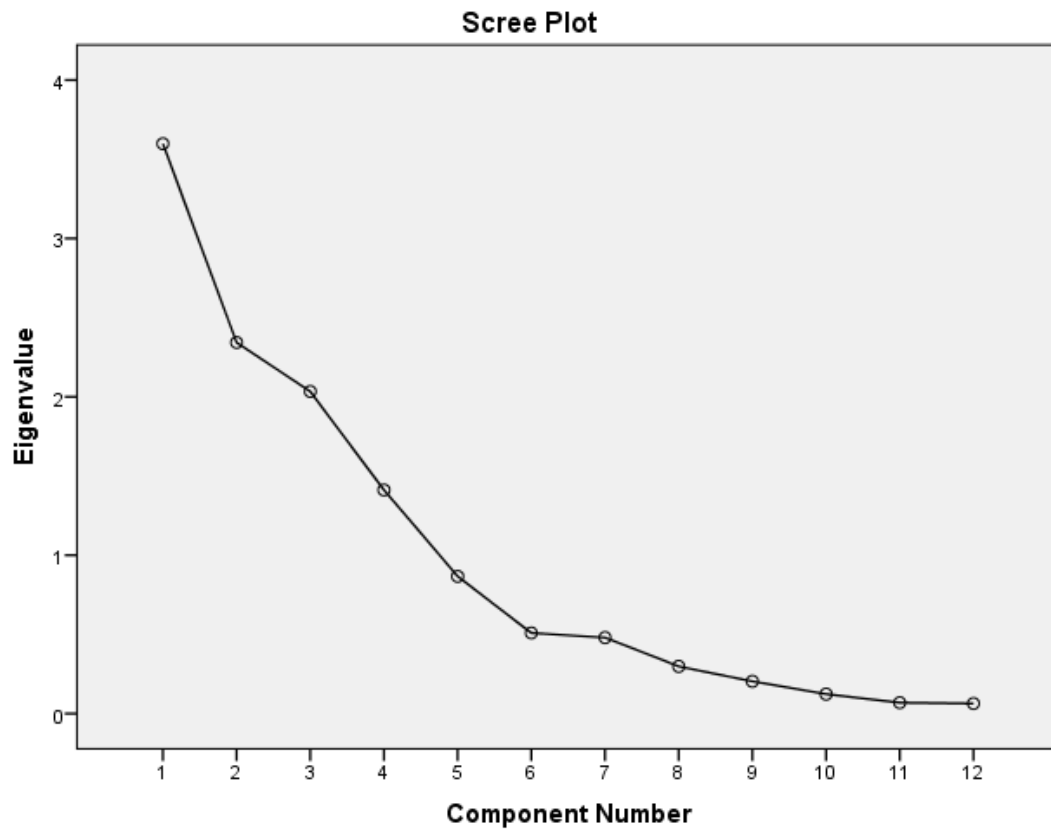
### Appendix III: Mahalanobis Distance Test Results

.01233	.12619	.29505	.43001	.55300	.65161	.90082	.90306
.01521	.13178	.29505	.43259	.55300	.65161	.90165	.90790
.02180	.13493	.29505	.43408	.55300	.65450		.90903
.02676	.13508	.29761	.44191	.55329	.65450	.76452	.90977
.02826		.29779		.55609	.66737	.76558	.91873
.02826	.13508		.44283	.55609	.67500	.77121	.92078
.03271	.13784	.30489	.44283	.56264	.67500	.77186	.92592
.03326	.13903	.31268	.44308	.56570	.67500	.78772	.93279
.03360	.13903	.31406	.44308	.56570	.67500	.79068	.94035
.03473	.15420	.31408	.44479	.57315	.67774	.79231	.94381
.03583	.15657	.32295	.44537	.57315	.67774	.79443	.95525
.04353	.15668	.32472	.44801	.59028	.68131	.79689	.95525
.05423	.15747	.33434	.44901	.59520	.68401	.79844	.96111
.05432	.17033	.33434	.45116	.59726	.68641	.80387	.96649
.05572	.17139	.34041	.46040	.59726	.68641	.80387	.97452
.05939	.18055	.34409	.46183	.59746	.70588	.80521	.98239
.06383	.18947	.35192	.46323	.60159	.70924	.81383	.98239
.06385	.20699	.35192	.48858	.60707	.71298	.81922	.98430
.06385	.20935	.35466	.48858	.60707	.71698	.81922	.99017
.07325	.21006	.36742	.49329	.61266	.72249	.83060	.99625
.07470	.21591	.37194	.49628	.61396	.72249	.83671	.99625
.08277	.21617	.37194	.49688	.61805	.72249	.85186	.99625
.08383	.21617	.37194	.50127	.62028	.72249	.85186	
.08383	.21617	.37890	.50127	.62653	.72328	.85903	.99625
.08383	.21617	.38845	.51062	.63113	.72328	.86943	.99625
.08383	.22374	.38887	.52376	.63113	.72483	.87023	.99625
.08383	.23170	.38951	.52488	.63113	.72625	.87456	
.08383	.23711	.39384	.52705	.63113	.72625	.87683	
.09147	.24285	.39484	.53395	.63113	.72625	.88262	
.09611	.24476	.39499	.54636	.63113	.72625	.88262	
.10119	.25648	.40625	.54738	.63113	.72866	.88262	
.10374	.25836	.40867	.54936	.63341	.73477	.88473	
.10446	.26990	.41289	.54936	.64650	.74052	.89114	
.10792	.26990	.41312	.54936	.64701	.74094	.89243	
.10839	.27170	.41568	.54949	.64701	.74094	.89708	
.11119	.27170	.41574	.54949	.64701	.74094	.89708	
.11465	.27193	.42331	.55031	.65161	.74466	.89708	
.11465	.27654	.42331		.65161	.75087	.89708	
.11975	.28627	.42331	.55300	.65161	.75087	.89708	
.12169	.28776	.42331	.55300	.65161	.75212	.89708	
.12258	.29429	.42331	.55300	.65161	.75474	.89843	
	.29505	.42619	.55300			.90082	
			.55300				

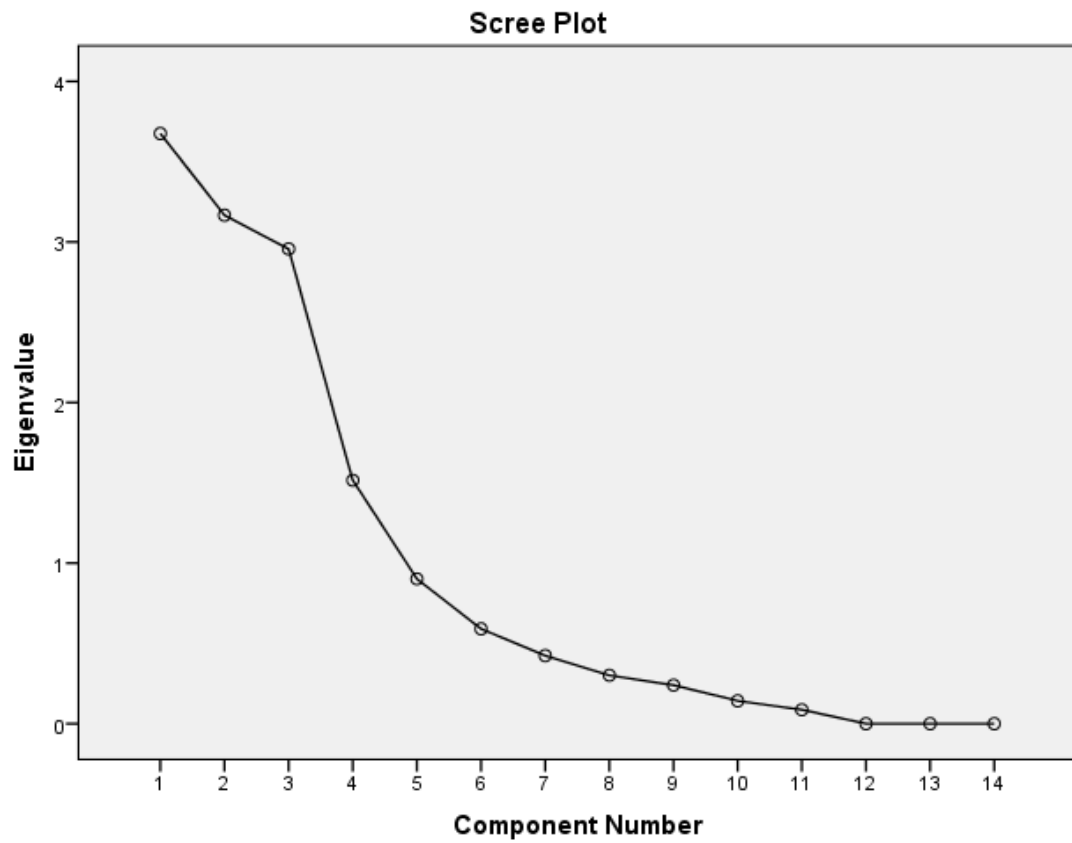


**Appendix IV: Scree Plots****Scree Plot for Entrepreneurial Orientation Components**

Source: Survey Data (2020)



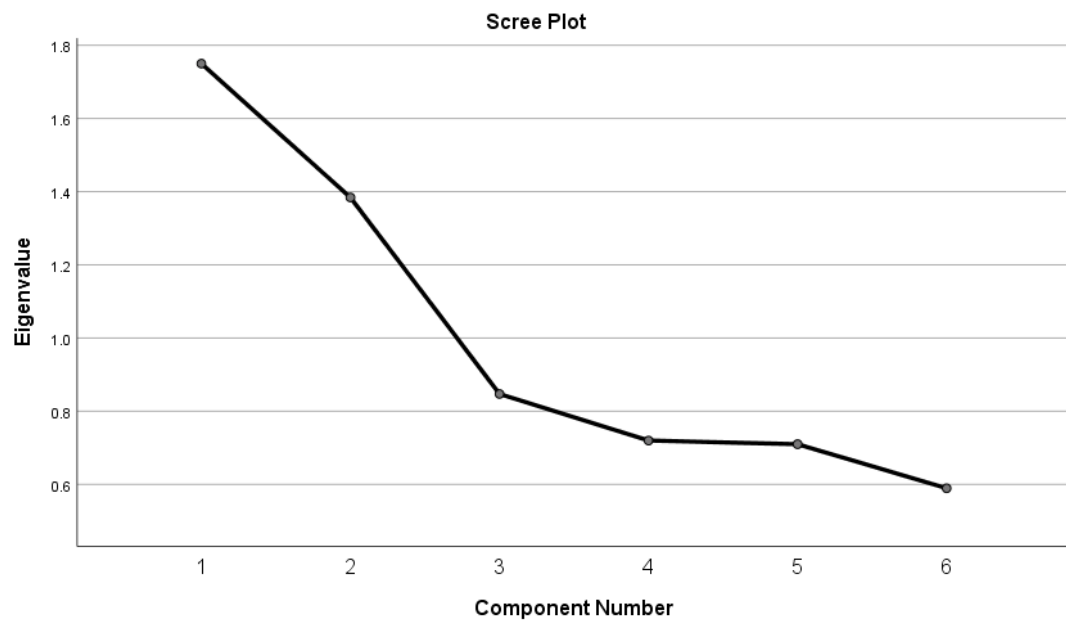
**Scree Plot for Firm strategic capabilities Components**  
Source: Survey Data (2020)



**Scree Plot for Environmental Factors Components**

Source: Survey Data (2020)

F



**Scree Plot for MSME Growth**  
Source: Survey Data (2020)

**Appendix V: Regression Result for the effect of Entrepreneurial Orientation on  
the Growth of manufacturing sector MSMEs in Kenya.**

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.234 <sup>a</sup>	.055	.048	2.67416
2	.272 <sup>b</sup>	.074	.065	2.65105

a. Predictors: (Constant), Subsect, Age

b. Predictors: (Constant), Subsect, Age, EO

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	127.515	2	63.758	8.916	.000 <sup>b</sup>
	Residual	2209.703	309	7.151		
	Total	2337.218	311			
2	Regression	172.578	3	57.526	8.185	.000 <sup>c</sup>
	Residual	2164.640	308	7.028		
	Total	2337.218	311			

a. Dependent Variable: Growth

b. Predictors: (Constant), Subsect, Age

c. Predictors: (Constant), Subsect, Age, EO

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18.847	.736		25.594	.000
	Age	.776	.210	.205	3.693	.000
	Subsect	.052	.031	.094	1.685	.093
2	(Constant)	14.302	1.938		7.381	.000
	Age	.732	.209	.194	3.502	.001
	Subsect	.050	.031	.089	1.620	.106
	EO	.063	.025	.139	2.532	.012

a. Dependent Variable: Growth

**Appendix VI: Regression Result for the effect of entrepreneurial orientation on  
Firm Strategic Capabilities among manufacturing sector MSMEs  
in Kenya**

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.160 <sup>a</sup>	.026	.019	4.05811
2	.318 <sup>b</sup>	.101	.092	3.90441

a. Predictors: (Constant), Subsect, Age

b. Predictors: (Constant), Subsect, Age, EO

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	134.419	2	67.209	4.081	.018 <sup>b</sup>
	Residual	5088.696	309	16.468		
	Total	5223.115	311			
2	Regression	527.847	3	175.949	11.542	.000 <sup>c</sup>
	Residual	4695.269	308	15.244		
	Total	5223.115	311			

a. Dependent Variable: FSC

b. Predictors: (Constant), Subsect, Age

c. Predictors: (Constant), Subsect, Age, EO

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	48.076	1.117		43.023	.000
	Age	.642	.319	.114	2.013	.045
	Subsect	.086	.047	.103	1.825	.069
2	(Constant)	34.646	2.854		12.140	.000
	Age	.512	.308	.091	1.663	.097
	Subsect	.079	.045	.094	1.739	.083
	EO	.186	.037	.276	5.080	.000

a. Dependent Variable: FSC

**Appendix VII: Regression Result for the effect of Firm Strategic Capabilities on  
the Growth of manufacturing sector MSMEs in Kenya**

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.234 <sup>a</sup>	.055	.048	2.67416
2	.264 <sup>b</sup>	.070	.061	2.65712

a. Predictors: (Constant), Subsect, Age

b. Predictors: (Constant), Subsect, Age, FSC

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	127.515	2	63.758	8.916	.000 <sup>b</sup>
	Residual	2209.703	309	7.151		
	Total	2337.218	311			
2	Regression	162.652	3	54.217	7.679	.000 <sup>c</sup>
	Residual	2174.566	308	7.060		
	Total	2337.218	311			

a. Dependent Variable: Growth

b. Predictors: (Constant), Subsect, Age

c. Predictors: (Constant), Subsect, Age, FSC

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18.847	.736		25.594	.000
	Age	.776	.210	.205	3.693	.000
	Subsect	.052	.031	.094	1.685	.093
2	(Constant)	14.852	1.934		7.678	.000
	Age	.723	.210	.191	3.439	.001
	Subsect	.045	.031	.081	1.456	.146
	FSC	.083	.037	.124	2.231	.026

a. Dependent Variable: Growth

**Appendix VIII: Regression Result for the mediating effect of Firm Strategic Capabilities on the relationship between Entrepreneurial Orientation and Growth of manufacturing sector MSMEs in Kenya**

Model : 4

Y : Growth

X : EO

M : FSC

Covariates:

Age            Subject

Sample

Size: 312

\*\*\*\*\*  
\*\*\*\*\*

OUTCOME VARIABLE:

FSC

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.3179	.1011	15.2444	11.5419	3.0000	308.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	34.6458	2.8538	12.1402	.0000	29.0304	40.2613
EO	.1863	.0367	5.0802	.0000	.1141	.2584
Age	.5122	.3080	1.6631	.0973	-.0938	1.1182
Subject	.0789	.0453	1.7391	.0830	-.0104	.1681

\*\*\*\*\*  
\*\*\*\*\*

OUTCOME VARIABLE: Growth

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.2855	.0815	6.9927	6.8089	4.0000	307.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	12.1639	2.3502	5.1757	.0000	7.5393	16.7885
EO	.0516	.0259	1.9939	.0470	.0007	.1024
FSC	.0617	.0386	1.5988	.1109	-.0142	.1376
Age	.7007	.2095	3.3441	.0009	.2884	1.1130
Subject	.0450	.0309	1.4590	.1456	-.0157	.1058

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS OF X ON Y  
\*\*\*\*\*

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
.0516	.0259	1.9939	.0470	.0007	.1024

Indirect effect(s) of X on Y:

Effect	BootSE	BootLLCI	BootULCI
FSC	.0115	-.0020	.0276



**Appendix IX: Regression Result for the moderating effect of Environmental Factors on the relationship between Entrepreneurial Orientation and Firm Strategic Capabilities among manufacturing sector MSMEs in Kenya**

Model : 1  
 Y : FSC  
 X : EO  
 W : EF

Covariates:  
 Age           Subsect

Sample  
 Size: 312

\*\*\*\*\*  
 \*\*\*\*\*

OUTCOME VARIABLE:  
 FSC

Model Summary

R	R-sq	MSE	F	df1	df2	p
.9571	.9160	1.4336	667.4872	5.0000	306.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	11.5055	8.9812	1.2811	.2011	-6.1671	29.1782
EO	-.0568	.1200	-.4734	.6363	-.2930	.1794
EF	.6373	.1526	4.1759	.0000	.3370	.9376
Int_1	.0014	.0020	.6859	.4933	-.0026	.0054
Age	.0995	.0948	1.0499	.2946	-.0870	.2860
Subsect	.0144	.0140	1.0312	.3033	-.0131	.0419

Product terms key:

Int\_1 :           EO           x           EF

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0001	.4705	1.0000	306.0000	.4933

**Appendix X: Regression Result for the moderating effect of Environmental  
Factors on the relationship between Entrepreneurial Orientation and  
Growth of manufacturing sector MSMEs in Kenya**

Model : 1

Y : Growth

X : EO

W : EF

Covariates:

Age Subject

Sample

Size: 312

\*\*\*\*\*  
\*\*\*\*\*

OUTCOME VARIABLE:

Growth

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.3088	.0954	6.9095	6.4522	5.0000	306.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	52.5904	19.7173	2.6672	.0081	13.7918	1.3891
EO	-.4885	.2635	-1.8537	.0647	-1.0070	.0300
EF	-.6352	.3350	-1.8959	.0589	-1.2945	.0241
Int_1	.0092	.0045	2.0597	.0403	.0004	.0180
Age	.7119	.2081	3.4216	.0007	.3025	1.1213
Subject	.0431	.0307	1.4067	.1605	-.0172	.1034

Product terms key:

Int\_1 : EO x EF

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0125	4.2423	1.0000	306.0000	.0403

-----

Focal predict: EO (X)

Mod var: EF (W)

Conditional effects of the focal predictor at values of the moderator(s):

EF	Effect	se	t	p	LLCI	ULCI
53.0000	-.0018	.0364	-.0484	.9614	-.0734	.0699
58.0000	.0442	.0258	1.7119	.0879	-.0066	.0949
64.0000	.0992	.0344	2.8842	.0042	.0315	.1670

**Appendix XI: Regression Result for the moderating effect of Environmental  
Factors on the relationship between Firm Strategic Capabilities and  
Growth of manufacturing sector MSMEs in Kenya**

Model : 1  
Y : Growth  
X : FSC  
W : EF

Covariates:  
Age Subject

Sample  
Size: 312

\*\*\*\*\*  
\*\*\*\*\*

OUTCOME VARIABLE:  
Growth

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2673	.0714	7.0923	4.7088	5.0000	306.0000	.0004

Model

	coeff	se	t	p	LLCI	ULCI
constant	23.6057	17.5314	1.3465	.1791	-10.8918	58.1032
FSC	-.1570	.3627	-.4328	.6654	-.8706	.5567
EF	-.0889	.3193	-.2783	.7810	-.7172	.5395
Int_1	.0029	.0059	.4907	.6240	-.0087	.0145
Age	.7265	.2108	3.4455	.0006	.3116	1.1413
Subject	.0474	.0313	1.5156	.1306	-.0141	.1090

Product terms key:

Int\_1 : FSC x EF

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0007	.2407	1.0000	306.0000	.6240

**Appendix XII: Regression Result for the moderating effect of Environmental Factors on the indirect relationship between Entrepreneurial Orientation and Growth of manufacturing sector MSMEs in Kenya via Firm Strategic Capabilities**

Model : 59  
 Y : Growth  
 X : EO  
 M : FSC  
 W : EF

Covariates:  
 Age Subject

Sample  
 Size: 312

\*\*\*\*\*  
 \*\*\*\*\*

OUTCOME VARIABLE:  
 FSC

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.9571	.9160	1.4336	667.4872	5.0000	306.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	11.5055	8.9812	1.2811	.2011	-6.1671	29.1782
EO	-.0568	.1200	-.4734	.6363	-.2930	.1794
EF	.6373	.1526	4.1759	.0000	.3370	.9376
Int_1	.0014	.0020	.6859	.4933	-.0026	.0054
Age	.0995	.0948	1.0499	.2946	-.0870	.2860
Subsect	.0144	.0140	1.0312	.3033	-.0131	.0419

Product terms key:

Int\_1 : EO x EF

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0001	.4705	1.0000	306.0000	.4933

\*\*\*\*\*  
 \*\*\*\*\*

OUTCOME VARIABLE:  
 Growth

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.3097	.0959	6.9510	4.6061	7.0000	304.0000	.0001

Model

	coeff	se	t	p	LLCI	ULCI
constant	49.2516	22.7124	2.1685	.0309	4.5582	93.9450
EO	-.5231	.2820	-1.8546	.0646	-1.0781	.0319
FSC	.0880	.3791	.2321	.8166	-.6580	.8340

EF	-.5494	.3976	-1.3820	.1680	-1.3317	.2329
Int_1	.0098	.0048	2.0470	.0415	.0004	.0192
Int_2	-.0021	.0062	-.3342	.7384	-.0143	.0102
Age	.7160	.2091	3.4247	.0007	.3046	1.1275
Subsect	.0423	.0311	1.3607	.1746	-.0189	.1034

Product terms key:

Int_1	:	EO	x	EF
Int_2	:	FSC	x	EF

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0125	4.1901	1.0000	304.0000	.0415
M*W	.0003	.1117	1.0000	304.0000	.7384

-----

Focal predict:	EO	(X)
Mod var:	EF	(W)

Conditional effects of the focal predictor at values of the moderator(s):

EF	Effect	se	t	p	LLCI	ULCI
53.0000	-.0041	.0376	-.1098	.9126	-.0781	.0699
58.0000	.0448	.0260	1.7211	.0863	-.0064	.0961
64.0000	.1036	.0361	2.8665	.0044	.0325	.1747

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS OF X ON Y  
\*\*\*\*\*

Conditional direct effect(s) of X on Y:

EF	Effect	se	t	p	LLCI	ULCI
53.0000	-.0041	.0376	-.1098	.9126	-.0781	.0699
58.0000	.0448	.0260	1.7211	.0863	-.0064	.0961
64.0000	.1036	.0361	2.8665	.0044	.0325	.1747

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

EO	->	FSC	->	Growth
----	----	-----	----	--------

EF	Effect	BootSE	BootLLCI	BootULCI
53.0000	-.0004	.0031	-.0068	.0064
58.0000	-.0008	.0033	-.0078	.0060
64.0000	-.0015	.0047	-.0120	.0074

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## Appendix XIII: Pilot Study Findings

### 1.0 Reliability Analysis

The pilot study was carried out in order to determine reliability of the questionnaire. To this end, the Cronbach's Alpha which measures the internal consistency was used. The Alpha measures internal consistency by establishing if certain item measures the same construct. Nunnally (1978) established the Alpha value threshold at 0.7 which the study benchmarked against. Cronbach Alpha was established for every objective in order to determine if each scale (objective) would produce consistent results should the research be done later on.

**Table 1: Reliability Coefficients**

Scale	Initial Items	Final Items	Initial Cronbach Alpha	Final Cronbach Alpha
Innovativeness	8	7	.645	.766
Risk Propensity	8	6	.687	.832
Proactiveness	7	7	.823	.823
Firm Resources	12	12	.858	.858
Market Orientation	10	10	.796	.796
Policy Environment	11	11	.825	.825
Competition	10	6	.676	.873
Entrepreneurial Orientation	23	20	.904	.896
Firm Strategic Capabilities	22	22	.845	.845
Environmental Factors	21	17	.794	.813
MSME Growth	2	2	.989	.989

According to Tashakkori and Teddlie (2010), an instrument is deemed highly reliable if it records a Cronbach Alpha coefficient of between 0.82 and 1.00; sufficient reliability if between 0.64 and 0.82; has low reliability of between 0.46 and 0.64; and not reliable if between 0.10 and 0.46. As presented in Table 4.1, all the constructs, both for the sub-scales and composite variables, were found to be sufficiently and highly reliable, having Cronbach alpha levels prescribed by Tashakkori and Teddlie (2010). Among the sub-scales, Competition (.873), Firm Resources (.858), Policy Environment (.825), Proactiveness (.823) and Risk Propensity (.832) recorded high reliability while Market Orientation (.796) and Innovativeness (.766) recorded sufficient reliability. For composite variables, MSME growth recorded the highest reliability (0.989); Entrepreneurial Orientation (.896) and Firm Strategic Capabilities (.845) while Environmental Factors was found to be sufficiently reliability (.794).

### 2.0 Outliers

An outlier is expressed as a point of data which distances itself from the model while the rest do fall within the range and seems distant from the remaining data (Collis & Hussey, 2009). The identification of outliers can lead to the discovery of truly unexpected knowledge in the analysis of statistics. However, these points can have a negative effect on the regression equation, skewness and kurtosis of the data. Therefore, outlier detection is important for effective modelling to present the accuracy of results.

The data was analyzed to detect the presence of multivariate outliers following the guidelines by Ary et al. (2010) and Collis and Hussey (2009). The multivariate outliers were detected using Mahalanobis distance ( $D^2$ ). A case is found to be an outlier if the probability associated with its ( $D^2$ ) is 0.001 or less (Collis and Hussey (2009). In the present study, no outlier was detected as all statements had probabilities associated with their ( $D^2$ ) as above 0.001.

### 3.0 Testing for Normality

Normality of distributions was assessed graphically through visual inspection of graphs and plots and numerically through statistical tests particularly the Shapiro-Wilk test and by examining skewness and kurtosis. According to Collis and Hussey (2009), Shapiro-wilk test is more appropriate for small sizes of less than 50 but can also handle sample sizes as large as two thousand while Kolmogorov- Smirnov is used for sample sizes above two thousand. The significance of normality in Shapiro-Wilk test is indicated by values greater than 0.05 (Ary et al., 2010; Collis & Hussey, 2009). As such, in the present Pilot study, normality of distributions was assessed through the Shapiro-Wilk test. Results are presented in Table 2.

**Table 2: Test for Normality**

	Statistic	Shapiro-Wilk df	Sig.
Employment Growth	.874	44	.081
Proactiveness	.935	44	.235
EO	.972	44	.446
Firm Resources	.963	44	.362
Market Orientation	.945	44	.336
Firm Strategic Capabilities	.975	44	.460
Policy Environment	.853	44	.067
Competition	.942	44	.227
Environmental Factors	.920	44	.205
Innovativeness	.890	44	.102
Risk Propensity	.911	44	.117

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The results indicated that data were normally distributed for all scales since all Shapiro-wilk statistics had Statistical significance values above the acceptable threshold of 0.05 (Tashakkori & Teddlie, 2008). The null hypothesis that the data are normally distributed was therefore not rejected, hence the conclusion that the data was found to be normally distributed.

#### 4.0 Multicollinearity Diagnostics

Multicollinearity is detected when a pair or more, of predictor variables are correlated highly as indicated by the correlation coefficients and has a value of 9.0 and above (Creswell, 2013). The study utilized the centering of independent variables prior to computing interaction terms to counter Multicollinearity.

**Table 3 Multicollinearity Diagnostics**

Model	Collinearity Statistics	
	Tolerance	VIF
Innovativeness	.327	3.060
Risk Propensity	.480	2.084
Proactiveness	.338	2.962
Firm resources	.818	1.223
Market orientation	.226	4.422
Policy Environment	.112	8.959
Competition	.242	5.102
EO	.799	1.252
Firm Strategic Capabilities	.644	1.554
Environmental Factors	.597	1.675

As presented in Table 3, multicollinearity was tested by the Variance Inflation Factor (VIF) which revealed acceptable values which were all within the set values of -10 to 10. To further confirm that there was no Multicollinearity, tolerance values were checked and it was established that they were all below 1.0 which is the accepted standard.

#### 5.0 Homogeneity of Variances

Homogeneity of variance was tested using the Levene statistic. According to Collis and Hussey (2009), Levene's test verified the equality of variance in the samples with the acceptable threshold of ( $p > .05$ ). Table 4 presents the findings.

**Table 4: Tests for Test of Homogeneity of Variances**

Variable	Levene Statistic	df1	df2	Sig.
Innovativeness	1.216	7	36	.319
Risk Propensity	1.884	6	35	.111
Proactiveness	1.478	6	35	.214
Firm Resources	4.513	13	23	.101
Market Orientation	1.747	8	31	.127
Policy Environment	1.299	9	30	.278
Competition	3.180	9	33	.107
EO	2.554	12	28	.220
Firm Strategic Capabilities	8.968	10	19	.100
Environmental Factors	1.856	11	23	.102

a. Predictors: (Constant), Innovativeness, Risk Propensity, Proactiveness, Firm Resources, Market Orientation, Policy Environment, Competition, EO, Firm Strategic Capabilities, Environmental Factors



Variable	Levene Statistic	df1	df2	Sig.
Innovativeness	1.216	7	36	.319
Risk Propensity	1.884	6	35	.111
b. Dependent Variable: MSME Growth				

As shown in Table 4, the study recorded P-values greater than 0.05 for sub-scales and composite variables, indicating homogeneity of variance. The Levene's test of homogeneity of variances is thus not significant at  $\alpha = 0.05$ . The null hypothesis that there is equal variances in the data was therefore not rejected hence the conclusion that there is homogeneity of variance in the data.

### 6.0 Validity Test

To ensure construct validity, the scales were adopted and modified from prior studies. To this end, Confirmatory Factor Analysis was done to determine how best the constructs best measured the study variables. The following statistical outputs were generated from factor analysis: KMO measure of sampling adequacy and Bartlett's Test of sphericity, scree plot, total variance explained and rotated component matrix. Bartlett's test and KMO, aimed at measuring of sphericity and sampling adequacy respectively. The purpose of this was to test for correlation among the factors making up the study variables.

**Table 6: KMO and Bartlett's Test for Entrepreneurial Orientation**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.712
Bartlett's Test of Sphericity	Approx. Chi-Square	1253
	Df	44
	Sig.	0.000

As presented in Table 6, the study established a KMO test statistics of 0.712. According to Kaiser (1974), KMO values that are statistically greater than 0.5 are adequate. In the present study then, the value of 0.712 indicates that there was sampling adequacy. Bartlett's Test of Sphericity produced a P value of 0.000 indicating that the constructs in the dataset are significantly correlated.

The Principal Component Analysis (PCA) method was used to ascertain the initial solution. This comprised of two stages, a rotated solution and an unrotated solution. This method was considered desirable since it permitted the dataset reduction to a more controllable size at the same time maintaining a lot of the original information. Table 7 presents the results for the unrotated solution.

**Table 7: Total Variance Explained**

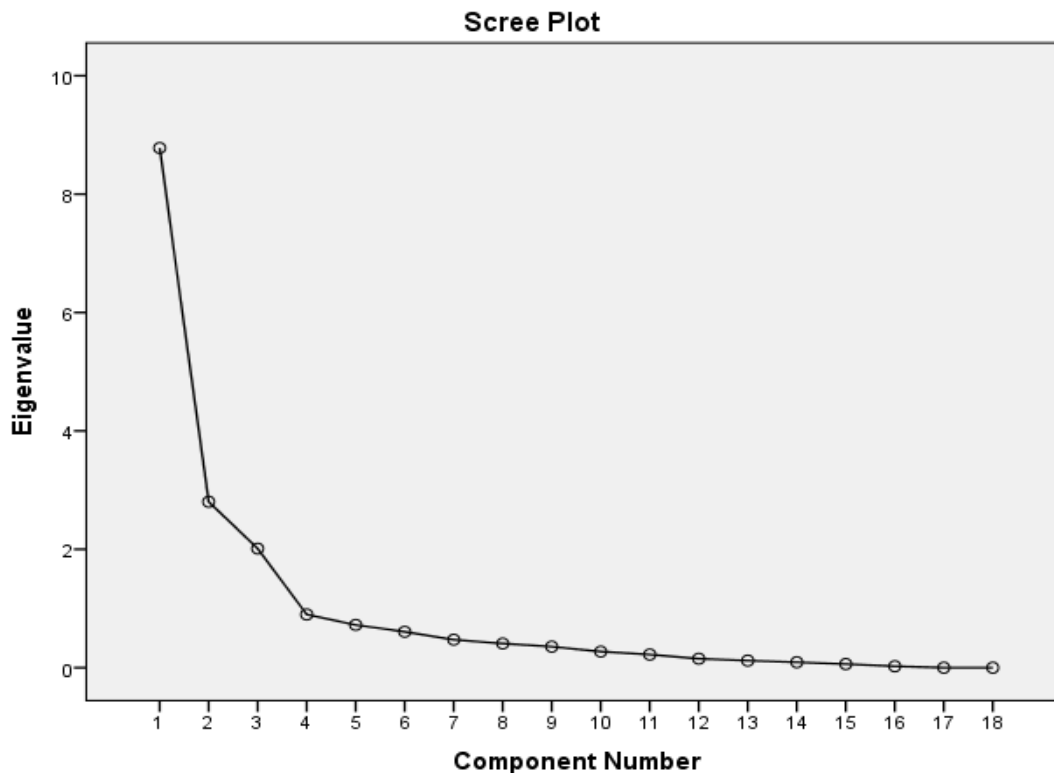
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	8.779	48.774	48.774	8.779	48.774	48.774	6.482
2	2.802	15.569	64.343	2.802	15.569	64.343	6.304
3	2.012	11.178	75.521	2.012	11.178	75.521	5.430
4	.899	4.994	80.515				
5	.722	4.010	84.525				
6	.608	3.375	87.900				
7	.473	2.625	90.525				
8	.408	2.265	92.791				
9	.356	1.976	94.767				
10	.272	1.509	96.276				
11	.222	1.233	97.509				
12	.151	.840	98.348				
13	.120	.666	99.014				
14	.092	.514	99.528				
15	.061	.339	99.867				
16	.024	.133	100.000				
17	1.777E-16	9.874E-16	100.000				
18	5.211E-17	2.895E-16	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

A total of 18 components were established as Table 7 shows. Out of the 18, 75.521 percent of the variations were explained by 3 components, while 15 components explained 24.48 percent of the variations. The study used the Kaiser's criterion to seek variables equal to 1 or greater than 1 eigenvalues. A 48.774 percent of the variations were accounted by component 1, while 15.569 percent of the variations were explained by component 2 and component 3 accounted for 11.178 percent of the variations. As such, from the combined data set, a maximum of 3 components were extracted based on the total variance.

As observed by Nunny and Berstein (1994), the Kaiser criterion presents a weakness in its propensity to exaggerate the amount of factors. To address this weakness, a scree plot was proposed by Stevens (2002) to assess the number of statements to be maintained. The eigenvalues are graphed on a scree plot against the number of component and a point of inflexion is displayed on the curve. This is then used to determine the number of components to be extracted. The components in a scree plot before this, point to the amount of factors to maintain while after the point of inflexion, the components show that smaller and smaller amounts account for each consecutive factor hence ought not to be maintained.



**Figure 1: Scree Plot for Entrepreneurial Orientation Components**

The plot according to Norusis (2003), most often illustrates a distinctive discontinuity between the large factors at the vertical slope and the other factors at the steady trailing off, which forms at the base. Norusis (2003) notes that one should only use factors before the beginning of the scree. In the present findings, only the first 3 components come before the point of inflexion at the scree plot in Figure 1. As such, only 3 descriptors were considered adequate in the combined data set.

As presented in Table 8, 3 components were extracted from the combined data from the unrotated component matrix, with all items loading across all the 3 components. All the 18 items had loading of greater than 0.4 on at least one of the 3 components extracted. This implied that all the constructs were important in measuring entrepreneurial orientation.

**Table 8: Rotated Component Matrix<sup>a</sup>**

	Component		
	1	2	3
I emphasizes on utilizing new technology in our business	.753		
I actively introduce improvements and innovations in our business	.924		
Changes in our product or service lines have been quite fast	.805		
We encourage employees to think and behave in original and distinctive ways	.924		
I emphasize on research and development in our business	.897		
I prefer to try my own unique way when learning new things rather than doing it like everyone else does	.797		
I am strongly inclined to take calculated risks with new ideas		-.738	
There is a strong tendency, in our firm for high-risk projects		-.931	
I like to take bold action by venturing into the unknown		-.897	
I tend to act 'boldly' in situations where risk is involved		-.863	
In general, our business has a strong inclination towards high-risk projects		-.955	
The term "risk-taker" is considered a positive attribute for employees in our business		-.798	
I act in anticipation of future needs			.796
I typically initiates actions in my business that competitors respond to			.796
I continuously seek out new products/services			.615
I continuously monitor market trends and identifies future needs of customers			.835
I tend to plan ahead on projects			.631
I prefer to 'step up' and get things going on projects rather than sit and wait for someone else to do it			.656

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 6 iterations.

The study established a 3 component structure as shown in Table 8, determined from an Oblimin method with Kaiser Normalization rotation. A total of 18 items were loaded across the 3 components. Each of the 3 components loaded 6 items. A majority of items under component 1 relate to the use of technology, innovations and ideas and can therefore be labelled as Innovativeness while items under Component 2 on the other hand relate to risky undertakings and can thus be conceptualized as Risk Propensity. Component 3 contains items that largely point at actively seeking out opportunities and can thus be labelled as Proactiveness.

**Table 9 KMO and Bartlett's Test for Firm Strategic Capabilities**

	KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.692
Bartlett's Test of Sphericity	Approx. Chi-Square	867.211
	df	44
	Sig.	0.000

As presented in Table 9, the study established a KMO test statistics of 0.692 which is greater than the recommended threshold of 0.5 (Kaiser, 1974). As such, the results

further indicate that there was sampling adequacy. Bartlett's Test of Sphericity produced a P value of 0.000 indicating that the constructs under Firm Strategic Capabilities in the dataset are significantly correlated.

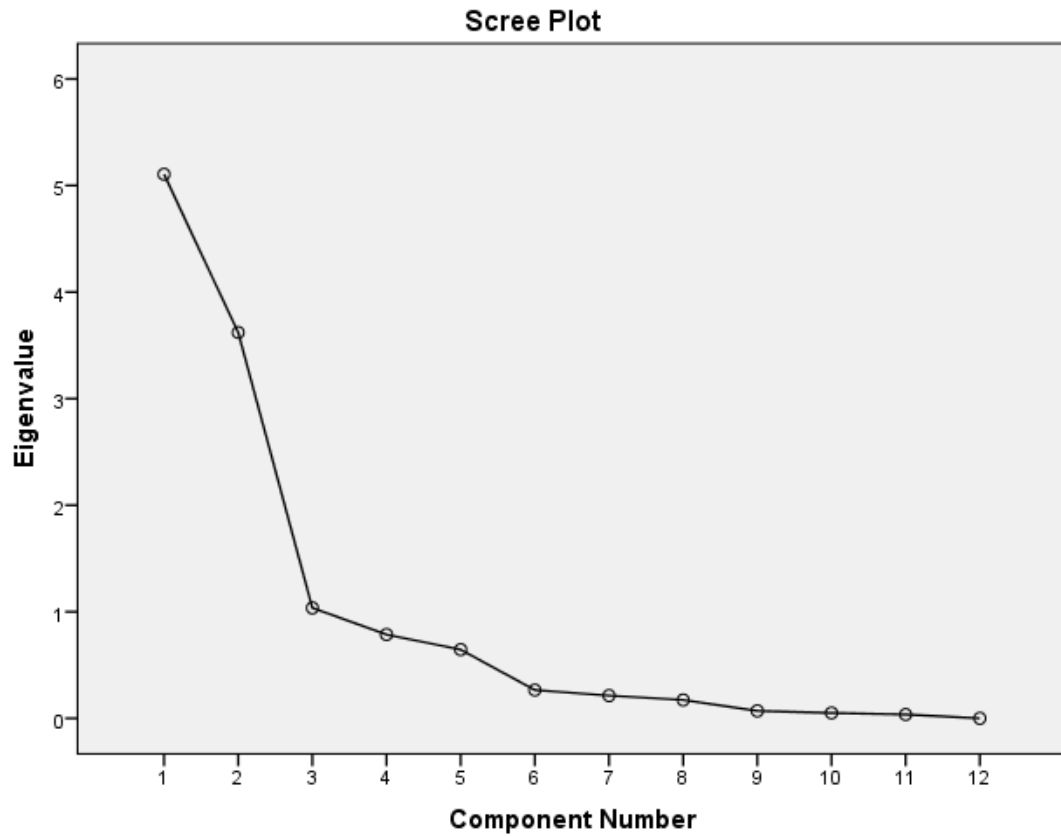
**Table 10: Total Variance Explained for Firm Strategic Capabilities**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	5.106	42.547	42.547	5.106	42.547	42.547	5.004
2	3.621	30.172	72.719	3.621	30.172	72.719	3.548
3	.836	8.633	81.352				
4	.786	6.550	87.902				
5	.645	5.372	93.274				
6	.265	2.211	95.485				
7	.213	1.777	97.262				
8	.173	1.438	98.700				
9	.070	.583	99.283				
10	.050	.420	99.703				
11	.036	.297	100.000				
12	-2.463E-16	-2.053E-15	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

A total of 12 components were established as Table 10 shows. Out of the 12, 72.719 percent of the variations were explained by 2 components, while 10 components explained 27.281 percent of the variations. The study used the Kaiser's criterion to seek variables equal to 1 or greater than 1 eigenvalues. A total of 42.547 percent of the variations were accounted by component 1, while 30.172 percent of the variations were explained by component 2. As such, from the combined data set, a maximum of 2 components were extracted based on the total variance.



**Figure 2: Scree Plot for Firm strategic capabilities Components**

As presented in Figure 2, only the first 2 components come before the point of inflexion at the scree plot. As such, only 2 descriptors were considered adequate in the combined data set.

**Table 11: Rotated Component Matrix<sup>a</sup>**

	Component	
	1	2
Our business has adequate equipment to enable us execute our business goals	.969	
Our business has adequate financial resource to finance our business goals	.961	
Our business has adequate cash flow to finance our business activities	.949	
Our business has adequate technological resources to finance our business activities	.949	
Our employees have the suitable education to fulfill their jobs	.723	
Our business carries out training frequently	.809	
Our business has a good image/reputation		.789
Our business has an excellent customer service reputation		.746
We conduct a lot of market research within the firm		.704
Employees interact freely & directly with customers to learn how to serve their needs better		.877
We do anticipate for new business opportunities		.911
We slowly detect changes in customer preferences		.519

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 6 iterations.

The study established a 2 component structure as shown in Table 11, determined from an Oblimin method with Kaiser Normalization rotation. The 12 original items loaded on the 2 components. Six items loaded on component one while component two also had 6 factor loadings. Component 1 contains items that relate to financial, technological and human resources which can be labelled as *Firm Resources*. Component 3 on the other hand contains items that relate to market research and opportunities and can thus be termed as *Market Orientation*.

**Table 12: KMO and Bartlett's Test for Environmental Factors**

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.708
Bartlett's Test of Sphericity	Approx. Chi-Square	1400
	Df	44
	Sig.	0.000

As presented in Table 12, the study established a KMO test statistics of 0.708 which is greater than the recommended threshold of 0.5 (Kaiser, 1974). As such, the results further indicate that there was sampling adequacy. Bartlett's Test of Sphericity produced a P value of 0.000 indicating that the constructs under Environmental Factors in the dataset are significantly correlated.

**Table 13: Total Variance Explained**

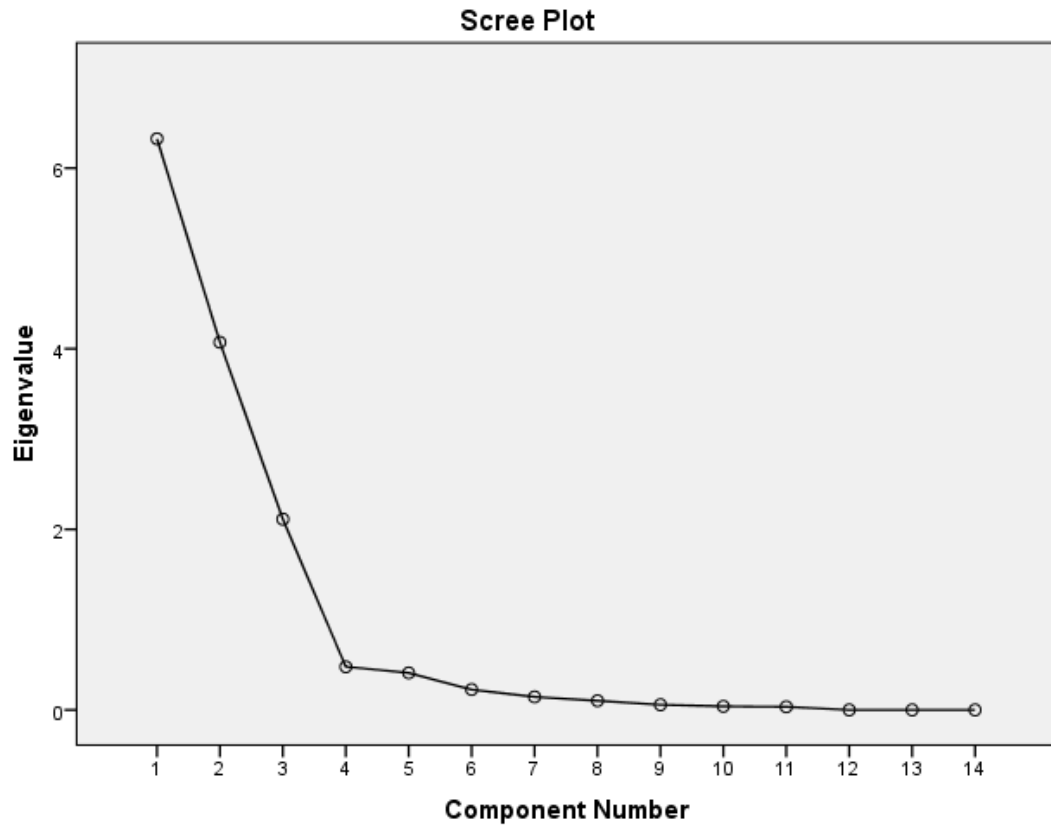
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	6.326	45.182	45.182	6.326	45.182	45.182	5.701
2	4.071	29.076	74.259	4.071	29.076	74.259	4.506
3	2.113	15.092	89.350	2.113	15.092	89.350	3.908
4	.478	3.415	92.765				
5	.410	2.929	95.694				
6	.225	1.609	97.303				
7	.144	1.032	98.335				
8	.102	.727	99.061				
9	.057	.411	99.472				
10	.040	.283	99.755				
11	.034	.245	100.000				
12	-	-	100.000				
	3.854E-21	-2.753E-20	100.000				
13	-	-	100.000				
	1.327E-16	-9.479E-16	100.000				
14	-	-	100.000				
	2.283E-16	-1.631E-15	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

A total of 14 components were established as Table 12 shows. Out of the 14, 89.350 percent of the variations were explained by 3 components, while 11 components explained 10.65 percent of the variations. The study used the Kaiser's criterion to seek variables equal to 1 or greater than 1 eigenvalues. A total of 45.182 percent of the variations were accounted by component 1, while 29.076 percent of the variations were explained by component 2 and component 3 accounted for 15.092 percent of the variations. As such, from the combined data set, a maximum of 3 components were extracted based on the total variance.





**Figure 3: Scree Plot for Environmental factors Components**

As presented in Figure 3, only the first 3 components come before the point of inflexion at the scree plot in Figure 4.3. As such, only 3 descriptors were considered adequate in the combined data set.

**Table 14: Rotated Component Matrix<sup>a</sup>**

	Component		
	1	2	3
Business licensing requirements are minimized			.929
Health and safety regulations are business-friendly			.970
Our business has benefitted from at least one government fund: Uwezo fund, Youth Enterprise Development Fund, Women Enterprise Fund, (Local Authority Transfer Fund (LATF), Constituency Development Fund (CDF)			.797
Our business has benefitted from special tax exemptions			.939
Our business has benefitted from investment promotion incentives	.991		
Our business has benefitted from export promotion incentives	.991		
Our business has benefitted from government initiated training	.995		
Our business has benefitted from improved access to appropriate information and technology courtesy of government	.995		
Our business has benefitted from improved access to markets	.995		
We invest adequately in innovation in order to design and develop products aimed at the worldwide market		.784	
We constantly improve our marketing methods to stay ahead of competition		.968	
We constantly improve our organizational methods/ systems to stay ahead of competition		.964	
We constantly improve our product process to stay ahead of competition		.923	
We constantly improve our market knowledge to stay ahead of competition		.896	

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

The study established a 5 component structure as shown in Table 14, determined from the Oblimin method with Kaiser Normalization rotation. A total of 14 items loaded on 3 components. Four items loaded on components 1 and while 5 items loaded on both components 2 and 3. Component 2 can further be labelled as Business Support Services as it contains items that speak to government initiatives to support business. Component 2 entails items that relate to strategies aimed at staying ahead of competition and can thus be labelled as Competition while component 3 contains items that relate to which can be conceptualized as Policy Environment.

## 7.0 Conclusion


The foregoing pilot study findings ascertain that the final questionnaire adopted for the main study exhibits both internal consistency and construct validity based on the Cronbach Alpha and Confirmatory Factory Analysis tests respectively. As such the questionnaire can be deemed both reliable and valid in that items in the questionnaire are an adequate and consistent representation of all the areas that are under investigation and that the constructs adequately address all the possible areas that are intended to be measured under each variable. The questionnaire is thus appropriate, complete and accurate.

### Appendix XIV: Research Permit

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: 228498

**RESEARCH LICENSE**




**This is to Certify that Mr., John Mosonik of Moi University, has been licensed to conduct research in Nairobi on the topic: THE MEDIATED MODERATION ROLE OF ENVIRONMENTAL FACTORS AND FIRM STRATEGIC CAPABILITIES ON THE RELATIONSHIP BETWEEN ENTREPRENEURIAL ORIENTATION AND GROWTH OF MANUFACTURING SECTOR MSMEs IN NAIROBI COUNTY, KENYA for the period ending : 14/August/2020.**

License No: NACOSTI/P/19/705

Applicant Identification Number: 228498

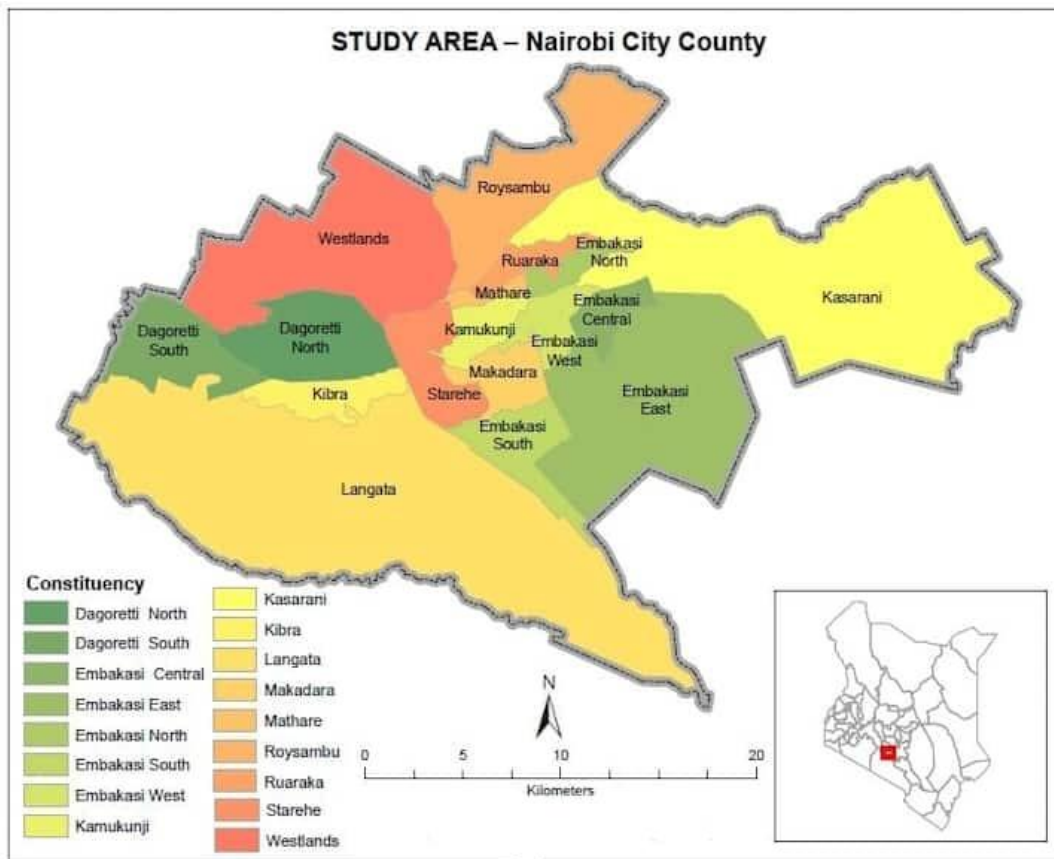
Director General  
**NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION**

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Appendix XV: Site Map



**Appendix XVI: List of Manufacturing MSMs in Nairobi County**

<b>Sn</b>	<b>Business Name</b>	<b>Activity Code</b>	<b>Physical Address</b>	<b>Size</b>
1	Metal Tin Makers	810	Baba Dogo- Ruaraka	Small
2	Solai Trading Limited	810	Funzi Rd	Small
3	Repelectric (K) Ltd	810	Off Baba Dogo Road	Small
4	Black And Beauty Products Ltd	810	Baba Dogo Rd/ Abacus Lane	Medium
5	Paramount Beverages Ltd	410	Baba Dogo Rd	Small
6	Shauri Moyo Jual Kali Association	825	Moyale Rd	Medium
7	Stitches And Stitches Textiles	115	River Rd	Small
8	Scolada Textiles	115	Gaberone Lane	Small
9	Joyvic Textiles	115	Gaberone Lane	Small
10	Dong Fang Development Co. Ltd	110	Biashara St	Medium
11	Kichewa Trading Agencies	110	River Rd	Medium
12	Jessons Office Equipment	110	Parliament Rd -St Georges	Medium
13	Zelippah Wanjiru Gathungu	115	Gaberone Rd	Small
14	Alika Textiles	115	Gaberone Rd	Small
15	Wanjohi Enterprises	115	Kayole	Small
16	Samson Nyangau Nyangweso	115	Ladhies Rd	Small
17	Fulchand Manek And Bros	810	Ngara Rd	Micro
18	New Wave Ind Ltd	810	Jaisala Rd	Micro
19	Coptex	110	River Rd	Micro
20	Bijal Textile	110	Ngara Road	Micro
21	Winka Fashions	110	Accra Road	Micro
22	Mohamed Abduba Galgalo	115	Captain Mungai Street	Micro
23	Salem Mohamed Omar	115	1st Ave	Micro
24	Abdirahimu Gundle Mohamed	115	Kipanga Athumani Rd	Micro
25	Kamaus Shop	115	12th St.	Micro
26	Habiba Mohamed Abdalla	115	1st Ave Eastleigh	Micro
27	Marino Fashion Clothes 1	115	Bankok Mall	Micro
28	Hassan Ahmed Musa	110	Eastleigh	Micro
29	Spring Fashion A International Textile	110	5th St	Micro
30	Shakur Engineering	830	Eastleigh Sec 111	Medium
31	Bhimji Ramji & Sons (K) Ltd	425	Off North Airport Rd	Medium
32	Economy Farm Products [K]Ltd	810	North Airport Rd	Small
33	G.N.And Co. Polythylene Ltd	810	Embakassi Rd	Small
34	Raneem Plastic Industries	810	North Airport Rd	Small
35	Eurocon Tiles Products Ltd.	810	North Airport Road.Embakasi	Small
36	Garuda Enterprises Ltd	810	Of North Air Port Rd	Small
37	Chuma Wood Works	115	Thika Rd	Small
38	Canan Pendams Timber/Furniture	115	Githurai	Small

39	The Posho Meals	410	Mumias Rd	Small
40	Sanjac Packaging Ltd	815	Masai Road	Small
41	Khaddy Limited	815	Mombasa Rd/Enterprise Rd Junction	Small
42	Kiboko Leasure Wear	810	Mombasa Rd	Small
43	Panesar's Kenya Ltd	810	Mombasa Rd	Micro
44	Straight Line Enterprises Limited	810	Mombasa Rd	Micro
45	Safaris Image Ltd	810	Falcon Road	Micro
46	Ultra Chemical Industries Limited	810	Masai Rd	Micro
47	Spenomatic K Ltd	815	Waiyaki Way	Micro
48	Hari Krishna Pricast Ltd	815	Langata South Rd	Small
49	Wilmer Interior Disigners	825	Ngong Rd	Medium
50	The Velvet Room	830	Ngong Rd	Micro
51	Stan Interior Designers Karen Ltd	830	Karen Langata Junction	Micro
52	Iron Juggleries	830	Off Kamunde Rd	Medium
53	Elmco Paints & Hardware(K) Ltd	815	Kariobangi Light Industrial	Medium
54	Jok Furniture	115	Mutarakwa Rd	Micro
55	G. M. Fancy Furniture	115	Rabai Rd	Micro
56	Veneer Industries Limited	825	Kombo Munyiri	Medium
57	Hadid Iron Mongers	825	Muslim Rd	Medium
58	Young Brothers Furniture	115	Kayole Bidii Street	Micro
59	Wairimu Shop	115	Maria Kayole	Micro
60	Emmanuel Investment	115	Kayole Hospital Rd	Micro
61	Jomba Furniture	115	Mugendi Kayole	Micro
62	Skima Enterprises	115	Kayole	Micro
63	Chester Jua Kali Enterprises	115	Kayole	Micro
64	Touch Wood	115	Kioi Stage	Micro
65	Kim Furniture	830	Kayole Estate	Micro
66	Juliet Wood Furniture	830	Spine Rd	Small
67	An Hui Chinese Garage Limited	825	Menelik Road	Medium
68	Kenya Furniture Rental	615	Bishop Road	Small
69	Macuisine Ltd	407	Loresho-Ridge Road	Medium
70	A To Z Richtech De Furniture	115	Spine Rd	Small
71	Tosha Investment	115	Spine Rd	Small
72	Deluxe Food Industries	810	Road A Off Enterprises Rd	Micro
73	Fine Wood Works Limited	810	Homa Bay Road	Micro
74	Nairobi Power Engineers Limited	810	Baricho Rd	Micro
75	Specialized Aluminium Renovators Ltd	810	Rd A Off Enterprise Rd	Micro
76	Hardtech Industrial Supplies Ltd	810	Lanet Road Off Baricho	Small
77	New World Stainless Steel Ltd	810	Lusaka Road	Small
78	Spectra Chemicals (Kenya) Ltd	810	Butere Rd	Small
79	Amm Engineering Works	810	Kayaba Rd-Off	Small

	Limited		Enterprise Road	
80	Zahra Sign Systems Ltd	810	Road C Off Enterprise Road	Small
81	Novel Paints Ltd	810	Garage Rd	Small
82	Sagoo Holdings Limited	810	Pokonyo Road Off Lusaka	Medium
83	New Kenya Co-Operative Creameries	810	Dakar Rd	Medium
84	Carbacid (Co2) Ltd	810	Factory Street	Medium
85	Agro Manufacturing Co Ltd	810	Lusingeti Road	Medium
86	Agro Manufacturing Co Ltd	810	Lokitang Rd	Medium
87	Kenya Tea Packers Limited.	810	Kampala Road	Medium
88	Zenith Rubber Rollers (E.A) Ltd	810	Isiolo Rd	Medium
89	Afro Cables Industries Ltd	810	Lunga Lunga Rd	Medium
90	Ramji Haribhai Devani Limited..	810	Falcon Rd Off Enterprise Rd	Medium
91	Welfast (K) Ltd	810	Commercial Street	Medium
92	Stainless Steel Products Ltd	810	Shimo La Tewa Rd	Medium
93	Raj Metals Ltd	810	Migwani Road	Medium
94	Apex Coating East Africa Limited	810	Lusingeti Rd	Medium
95	Prosel Ltd	810	Funzi Rd	Medium
96	Penta Converters Ltd	810	Athi River Road	Medium
97	Elite Offset Ltd	810	Factory St.	Medium
98	Giloil Co. Ltd	810	Gil Gil Rd	Medium
99	Re -Suns Spices Limited	810	Gilgil Rd Off Enterprise Rd.	Small
100	Giloil Company Ltd	810	Likoni Rd	Small
101	Cerapack Products Ltd	810	Enterprise Rd	Small
102	East Africa Cans And Closures Limited	810	Butere Rd	Small
103	Plastic Electricon Limited	810	Off Dunga Rd	Small
104	Chic Fashions Limited	810	Road C	Small
105	Bunny Industries Ltd	810	Dakar Road	Small
106	Manufacturers And Suppliers (K) Ltd	810	Garage Rd	Medium
107	Rubber Products Ltd	810	Dakar Rd	Medium
108	City Engineering Works (K) Ltd	810	Busia Road	Medium
109	Supa Snacks Limited	810	Bamburi Road	Medium
110	Inkson Industrial Co. Ltd	810	Dunga Rd	Medium
111	Polyblend Limited	810	Off Enterprise Rd	Medium
112	Sincar Ltd	825	Busia Rd	Medium
113	Studio Propolis	825	Entreprise Rd	Small
114	Intertractor Company Limited	825	Da R- Es- Salaam	Small
115	Johnson Pump [K] Ltd	825	Mombasa Road	Small
116	Najamuddin Sons (Kenya) Ltd	825	Bandari Rd	Small
117	Kenya Lighting Industries Ltd	825	Solai Rd	Small

118	Rift Valley Leather Limited	810	Hardy Koitobos Rd	Medium
119	Mills Industries Limited T/A Valley Tailor	810	Red Gross Rd Off Popo Rd	Medium
120	Sonado Ceramics Limited	360	Enterprise Road Nairobi	Medium
121	Kaloleni Wood Works And Repair	830	Oweno Ola Rd	Small
122	Muka Designers	115	Heshima Rd	Small
123	Housemark Company Ltd	825	Lusaka Rd	Medium
124	Gaze Furniture Kenya Ltd	115	Mihango	Small
125	Shamji Vishram	425	Embakasi/Mihango Off Kagundo Rd	Medium
126	Kingpin Investment 11	115	Penyanya Rd	Small
127	Achellis Material Handling Ltd.	810	Mombasa Road	Medium
128	Phoenipaper Ltd	810	Mombasa Rd	Medium
129	Kenya Canvas Ltd	810	Kirinyaga Road	Medium
130	Kemco Clothing Co.	810	Keekorok Rd	Medium
131	Teeny Fashions Limited	810	Kombo Munyiri	Medium
132	Mara Creation Nairobi Ltd	110	River Rd	Medium
133	Prince Wears	110	River Rd	Medium
134	Nairobi Mens Wear	110	Muindu Bingu St	Medium
135	Mohanlal Naran & Bros	110	Banda St	Micro
136	Brand Park	110	Muindu Bingu St	Micro
137	Kisura Limited	110	Biashara St	Micro
138	Ones Company	830	Kirinyaga Rd	Micro
139	Anntex Designers Textile	115	Gaberone Road	Micro
140	Joysacy Investments	115	River Rd	Micro
141	Arba Textiles	115	Gaberone Rd	Micro
142	Josiah Murithi N T/A Rusan Textiles	115	Gaberone Rd	Micro
143	Vision Collection	115	Gaberone Lane	Micro
144	Dubai Fashions	115	Gaberone Lane	Micro
145	Lily Lichungu.	115	Luthuli Ave	Micro
146	Masue Textile	115	Gaberone Rd	Micro
147	Joel Wachira Karite	115	Digo Rd	Micro
148	Reliable Art Services	825	Kombo Munyiri Rd	Micro
149	Andiron Aluminium Ltd	825	Kipande Road	Micro
150	Sweet Dream Bed And Matress Ltd	110	Mortar Daddah	Micro
151	Blesson Enterprises	110	Dubois Rd	Micro
152	Tel Star Agencies	110	Njugu Lane	Micro
153	Blatex Kenya Limited	110	Keekorok Road	Micro
154	Cristol Ceramics	110	Kijabe Street	Micro
155	Ridhi Ushanga (Nairobi) Limited	110	River Rd	Micro
156	Auto Number Plate Co.	825	Kirinyaga Rd	Micro
157	Madhura Garments *	815	Keekorok Rd	Micro
158	Rainbow Manufacturers Ltd	815	Industrial Area/Jirore Rd	Micro



159	Alitex Textiles	115	Gaberone Road	Micro
160	Lucky Matt Ltd	362	Off Enterprises Rd	Micro
161	Future Industrial And Trade Corporation Limited	810	East Gate Rd, Off Mombasa Road	Medium
162	Specialised Power Systems Ltd	810	Melili Rd Off Mombasa Rd	Medium
163	Coninx Industries Ltd	810	Road C Off Enterprise Road	Medium
164	Odds And Ends Ltd	810	Off Mombasa Rd	Medium
165	Modulec Engineering Systems Ltd	810	Off Mombasa Rd	Medium
166	Nets Ltd	810	Off Mombasa Road	Small
167	Life Clothing Factory Limited	810	Off Mombasa Road	Small
168	Fursys K Ltd	360	Mombasa Rd	Small
169	Timhomes Ltd	825	Off Langata Rd	Small
170	Virolocks (K) Ltd	815	Main Mombasa Rd	Small
171	Edges And Metal Construction Limited	825	Slade Rd	Small
172	Prioss Ltd	825	Muranga Rd	Small
173	Topserve East Africa Ltd	615	Forest Rd	Micro
174	Vanessa Textiles And Accessories	115	Gaberone Lane	Micro
175	Joy Workshop	830	Mushind Rd	Micro
176	M/S Hailat Knitting Enterprises Limited	810	Desai Road	Medium
177	Kam Industries Ltd	810	Irungu Riika Road	Medium
178	King Post Renovators	830	Park Rd	Micro
179	Bargain Furniture Mart	830	Ngara Rd	Micro
180	Prashara Enterprises	110	Kolobot Rd Ngara Nbi	Small
181	Winkers Furniture	115	Kangundo Rd	Micro
182	Platex Enterprises Limited	815	Njiru Off Kangundo Road	Micro
183	Anjaka Agencies	615	Ojijo Rd	Micro
184	Tiny Town Interior Designs	110	Off Mpaka Rd - Purvi Hse	Micro
185	Sankin Limited	110	Mpaka Road	Micro
186	Dash Interiors Company Ltd	110	Sarit Centre	Micro
187	Sous Chef Ltd	810	Off Limuru Rd	Micro
188	Elite Interiors And Office Supplies Ltd	110	Muthithi Rd	Micro
189	Sunny Daze Ltd	110	Peponi Rd	Micro
190	Pinkopallino Gallery Limited	825	Limuru Rd	Micro
191	Classic Ceramic Ltd	110	Apic Centre Westlands	Micro
192	Jimana Ltd	615	Waiyaki Way	Micro
193	Texchem Ltd	615	Funzi Road	Micro
194	Kiganda Furniture And Construction	110	Chiriku Lane	Small
195	Bridge Interiors	115	Gikomba - Shiriku Lane	Micro

196	Thuo Furniture Shop	115	Popo Lane	Micro
197	Samfred Fabricators	115	Sakwa Rd	Micro
198	Kenya Furniture Rental	360	Kombo Munyiri R	Micro
199	Kapital Wood & General	110	Kiambu Rd/Ridgeways Rd Junctio	Micro
200	Lacobus Furniture	115	Ruai	Micro
201	Bemjas Furniture	115	Kangundo Rd	Micro
202	Sankim Textile	115	Kangundo Rd	Micro
203	Faith Quality Furniture	110	Ruai	Micro
204	Siesta Timber & Hardware	810	Off Outering	Micro
205	Elegant Propoerties	115	Savanah	Micro
206	Audacious Woodwork Company	830	New Donholm	Micro
207	Wonder Pac Industries Limited	810	Mombasa Rd	Micro
208	Siwan Furniture	830	Manyanja Rd	Small
209	Hebrews 6;15 Interious	115	Umoja 1 Innercore	Small
210	Elever Furniture	115	Outering	Small
211	H.B Fuller Kenya Ltd	810	Outering Rd	Medium
212	E.A Educational Publishers	810	North Airport Rd	Medium
213	Joshimo Solution Ltd	115	Utawala Rd	Small
214	Jeanryan Furnitures	115	Utawala	Small
215	Woodoak Enterprises	825	Enterprise Rd	Small
216	Twin Africa Holdings Ltd	815	Ole Kalau	Small
217	Maroo Polymers Ltd	815	Addis Ababa	Small
218	Twin Africa Ltd	815	Lusingeti Road/Off Likoni	Small
219	Assi Engineering & Construction Works Ltd	825	Gilgil Road	Medium
220	Kenya Inks & Coatings Industries Ltd	815	Off Enterprises Road A	Medium
221	Arax Mill Ltd	815	Nanyuki Road	Small
222	Chui Manufacturers Limited	815	Likoni Rd	Small
223	Rushabh Industries Ltd	815	Lunga Lunga	Medium
224	Sudi Chemicals Industries Ltd	810	Off Lunga Lunga Road	Small
225	Heema Steel And Hardware Ltd	810	Lunga Lunga Road	Small
226	Unighir Ltd	810	Road C Behind Firestone	Small
227	A Plus Pvc Technology Company Ltd	810	Lusingeti Rd	Small
228	Kamba Manufacturers (1986) Limited	810	Bamburi Rd	Small
229	Twiga Renovators	810	Enterprises Rd	Small
230	Hans Apparel Ltd	810	Enterprise Rd	Small
231	Spice World Ltd	810	Nanyuki Rd	Small
232	Angelica Industries Nairobi Limited	810	Lusaka Rd	Medium
233	Spice World Ltd	810	Runyenjes	Small
234	Molecular Kenya Ltd	810	Kitui Rd	Medium

235	Karsam Serviettes Company Limited	810	Funzi Rd	Medium
236	Mann Manufacturing Co. Ltd	810	Enterprise Rd	Small
237	Total Foodservice Solutions Ltd	810	Bamburi Road	Small
238	King Knit Ltd	810	Rangwe Rd Ind.Area Godown A & B & C	Small
239	Kamdev Enterprises Ltd	810	Off Enterprise Rd	Small
240	Precision Plastics Ltd	810	Enterprise Rd	Small
241	Chemkleen Products Ltd	810	Nanyuki Rd	Small
242	Modern Reliance Industries Limited	810	Mombasa Rd	Medium
243	Inks (K) Ltd	810	Off Lunga Lunga Rd	Medium
244	Ecolab East Africa[K]Ltd	610	Tulip Hse - Off Mombasa Rd Rd	Medium
245	Dentex Industries Ltd	810	Addis Ababa / Athi River Road	Medium
246	Afriken International Ltd	810	Road B Off Enterprises Rd	Small
247	Afri Fashions Ltd.	810	Lusaka Road	Small
248	Magnum Engineers Ltd	810	Lunga Lunga Rd	Small
249	Maroo Polymers Ltd	810	Addis Ababa Rd	Small
250	Bubanks Limited	810	Off Enterprises Rd	Small
251	Tim Joints Ltd	810	Isiolo Road	Small
252	Cementers Ltd	810	Clesoi Rd-Industrial Area	Medium
253	Highlite Industries	810	Off Likoni Rd	Medium
254	Unilab Kenya Ltd	810	Baba Dogo Road	Medium
255	Chemraw E.A. Limited	810	Nyahera Road	Medium
256	Uzuri Industries Ltd	810	Nadume Rd	Small
257	Sai Pack Limited	810	Kitui Rd.	Small
258	Galaiya Foods Kenya Ltd	810	Off Likoni Road	Small
259	Munshiram International Business Machines Limited	810	Off Mombasa Road	Small
260	R And R Plastic Ltd	810	Lungalunga Rd	Small
261	Twiga Chemical Industries Limited	810	Nanyuki Rd	Medium
262	Kip Melamine Company Limited	810	Pate Rd Off Lunga Lunga Rd	Medium
263	Associated Paper & Stationery Ltd	810	Dunga Rd	Medium
264	Packaging Masters Ltd	810	Lunga Lunga Rd	Medium
265	Belfast Millers Ltd	810	Bamburi Rd	Medium
266	City Engineering Works (K) Ltd	810	Busia Rd, Off Enterprise Rd	Small
267	Elite Tools Limited	810	Pemba Rd	Small
268	City Radiators	810	Likoni Rd	Small
269	Al Mahra Industries Limited	810	Lunga Lunga Rd	Small
270	Chui Auto Spring Industries Ltd	810	Lunga Lunga Rd	Small
271	Vishnu Wood & Hardware Ltd	810	Funzi Rd	Small

272	Majestic Printing Works Ltd	810	Jirore Rd	Small
273	Nightrose Cosmetics [1972] Ltd	810	Lunga Lunga Rd	Small
274	Ekotech Limited	810	Road C-Off Enterprises Rd	Small
275	Orbit Engineering Ltd	810	Lusaka Rd,Industrial Area	Small
276	Africa Polysack Limited	810	Masai Rd Viwandani	Small
277	Pak Space Limited	810	Clesoi Rd Off Lunga Lunga	Micro
278	Pukka Products Limited	407	Juja Rd	Micro
279	Samson Munyoki Warega	115	Ladhies Rd	Micro
280	Jane Karanja Munia	115	Ladhies Rd	Micro
281	Jacob Omondi Osebe	115	Ladhies Rd	Micro
282	John Njuguna Kamau	115	Ladhies Rd	Micro
283	Njoroge Muchai	115	Kamukunji Rd	Micro
284	Alice Wanjera Mungai	115	Kamukunji Rd	Micro
285	George Mwangi	115	Kamukunji Rd	Micro
286	Julia Komunga Wangai	115	Kamukunji Rd	Micro
289	Evanson Kilukumi Macharia	115	Kamukunji Rd	Micro
290	James Mutua Mugo	115	Digo Rd	Micro
291	Jane Kamathe Gacheru	115	Digo Rd	Micro
292	Daniel Mutunga Kanyeke	115	Digo Rd	Micro
293	John Njau Musyoka	115	Digo Rd	Micro
294	Romano Makau Munge	115	Meru Rd	Micro
295	Joseph Musau Mutua	115	Meru Rd	Micro
296	Burugu Ngure	115	Meru Rd	Micro
297	Teresiah Wangari Kamiri	115	Meru Rd	Micro
298	Peter Kahari Mugo	115	Ngong Road	Micro
299	Samuel Macharia Kiunjuri	115	Ngong Road	Micro
300	Samuel Thiongo Ben	115	Ngong Road	Micro
301	George Kinyanjui Ngethi	115	Digo Rd	Micro
302	David Ndungu Mbugua	115	Digo Rd	Micro
303	Damaris Mutula Justus	115	Digo Rd	Micro
304	Paul Kimanzi Mwanzia	115	Meru Rd	Micro
305	Jackline Kerubo	115	Meru Rd	Micro
306	Janet Wangari Mburu	115	Meru Rd	Micro
307	Kenneth Ouma	115	Meru Rd	Micro
308	Samuel Syengo Wambua	115	Ngong Road	Micro
309	John Thurania	115	Ngong Road	Micro
310	Alex Wafula Weke	115	Ngong Road	Micro
311	David Kinuthia	115	Digo Rd	Micro
312	Justus Njau Kariuki	115	Digo Rd	Micro

## Appendix XVII: Turnitin Report

EO			
ORIGINALITY REPORT			
<b>31</b> %	<b>30</b> %	<b>4</b> %	<b>5</b> %
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS
PRIMARY SOURCES			
<b>1</b>	<b>ijbssnet.com</b> Internet Source		<b>19</b> %
<b>2</b>	<b>ir.jkuat.ac.ke</b> Internet Source		<b>1</b> %
<b>3</b>	<b>www.sciencegate.app</b> Internet Source		<b>1</b> %
<b>4</b>	<b>ir-library.ku.ac.ke</b> Internet Source		<b>1</b> %
<b>5</b>	<b>Submitted to University of Nairobi</b> Student Paper		<b>&lt;1</b> %
<b>6</b>	<b>Submitted to Kenyatta University</b> Student Paper		<b>&lt;1</b> %
<b>7</b>	<b>library.gau.ac.ke</b> Internet Source		<b>&lt;1</b> %
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