**International Journal in Management and Social Science**
Volume 07 Issue 08, August 2019 ISSN: 2321-1784 Impact Factor: 6.319
Journal Homepage: http://ijmr.net.in, Email: irjmss@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal

# THE MODERATING INFLUENCE OF MACRO ENVIRONMENT ON THE RELATIONSHIP BETWEEN STRATEGIC ALLIANCE AND PERFORMANCE OF KENYAN MANUFACTURING FIRMS IN THE EAST AFRICAN COMMUNITY MARKET

***Peter Mutuku Mathuki[a], Prof. Martin Ogutu[b], Prof. Bitange Ndemo[b] and Prof. Ganesh P. Pokhariyal[c]***

[a]PhD Candidate, Department of Business Administration - School of Business, University of Nairobi, Nairobi - Kenya

[b]Department of Business Administration - School of Business, University of Nairobi, Nairobi - Kenya

[c]Department of Applied and Industrial Mathematics - School of Mathematics, University of Nairobi, Nairobi - Kenya

**Corresponding author:** Peter Mutuku Mathuki, **Email:** petermathuki@gmail.com

## Abstract

*The study sought to establish the influence of macro environment on the relationship between strategic alliance and performance of Kenyan manufacturing firms in the East African Community market. The study was anchored on resource dependency theory (main anchoring),Resource Based Theory, Integration theory and Open System theory.. The positivism philosophical paradigm and a cross sectional descriptive survey design adopted guided the study. The population of the study was 160 Kenyan manufacturing firms in the EAC market. Primary data was collected using a semi-structured questionnaire. A response rate of 81% was realized. Secondary data was collected from financial statements of the respective firms. Data was analyzed using descriptive and inferential statistics. Hypotheses was tested using Baron and Kenny (1986) model of stepwise regression analysis to test for moderating effects. The findings indicated the moderating role of macro environment on the relationship between strategic alliance and firm performance was statistically significant. These results are consistent with propositions in the resource dependence and open system theories. In a regional integration framework, firms depend on each other through strategic alliances to gain competitive advantages as envisaged in resource dependency theory. For open systems theory, integration and macro-economic events, which are external to the firm, influences performance. The study has made contribution to theory, policy and management in relation to how macro-environment influences relationship between strategic alliances and firm performance. The study recommends that policy makers in EAC partner states should encourage complementarity and competitive advantage approaches while promoting skills transfer and information sharing amongst the firms. Future research directions include a replication of study in a longitudinal approach while using path analysis or structural equation models and consideration of other sectors, firm characteristics and resource constraints.*

**Keywords:** Strategic Alliance, Macro Environment, Firm Performance, Kenyan Manufacturing Firms in the East African Community Market, Resource Dependency theory.

## Introduction

Strategic alliances provide flexibility to the partnering firms by committing on fewer resources and activities on which they have competencies and configuring networks of alliance partners to bridge the gap between firm's present resources and the required. It brings in competitive advantage such as risk reduction and access to new technologies, low cost resources and access to new markets (Dodourova, 2009).

Strategic alliances essentially involve coordinating two or more partners to pursue shared objectives and satisfactory cooperation is vital to their success (Das & Teng, 2000; Doz, 1996; Kanter, 1994; Thompson & Strickland III, 1998). Therefore, strategic alliances serve as window of opportunities to be exploited and provide the means to neutralize threats (De Man, Duysters & Vasudevan, 2001), 'forecasted to represent between $25 trillion and $40 trillion in value by 2004' (Des & Rahman, 2001).

The dynamism in corporate culture and the way business is being conducted, may be the accelerating growth of relationship based not on ownership, but on partnership (Drucker, 1996). Firm performance is a key primary concern in practice and research of strategic management "(Lefort, McMurray & Tesvic, 2015). Strategic decisions envisage firm growth and profit and mediates the relation of dynamism, munificence, centralization, and formalization with firm performance (Baum & Wally, 2003).

The Macro-environment is anchored by Open system theory (Bertanlanffy, 1967; Bertalanffy & Bickis 1956). The Open system theory focus on events occurring external to the organization that influence changes within the organization (Bertanlanffy, 1956). This theory argues that it is critical that strategic choices for any firm, are depended on external environment and management of firms must ensure that they also evaluate the environment so that there can be a strategic match between the firm and the conditions emanating from the environment.

The macro-environment, also denoted to as the remote environment, comprises of factors that originate beyond and usually irrespective of any firms operating situation (Volberda, Morgan, Reinmoeller, Hitt, Ireland & Hoskisson, 2011). They include political, economic, social, technological, ecological and legal factors (Pearce et al, 2010). Firms' exist in open systems and cannot operate as closed systems because they are environment dependent and serving (Ansoff & McDonell, 1990). They depend on the environment to get their inputs for production and also to get somewhere to dispose of their goods and services.

Firms operate in turbulent, often aggressive environments that pose constant threats to their growth and survival (Smart & Vertinsky, 1984) and in the long term, only effective firms endure and pull through. The higher the rate of change in the environment, the higher the number of major organizational goals that must be transformed and vice versa. The ability to predict organizational changes and keep pace with environmental variation rate is an important pointer of an organization's coping abilities (Hannan & Freeman,1993).

Changes and turbulence in the macro-environment influence the strategic choice dimensions adopted by firms and eventually the performance of each particular firm. Therefore, clearly macro environmental factors present firms with opportunities, threats and constraints, but

rarely does a single firm exert any meaningful reciprocal influence (Pearce et al, 2008). According to Herbane (2010) if strategic alliances can carefully envisage and monitor the changes in the macro environment; firms may effectively adjust to the change and eventually improve the overall performance.

This study considers measurement of both financial and non-financial measures. The choice of both financial and non-financial measures is based on the context of the study. Several interested parties such as shareholders, investors, policymakers and public judge the Kenyan manufacturing firms that have entered into strategic alliances in the EAC region market on performance. The varying interests of the various stakeholders require that performance should be assessed in several areas simultaneously (Kaplan & Norton, 1992). According to Ongore (2008), firm performance can be measured by three main perspectives, namely Return on Assets (ROA), Return on Investment (ROI) and Dividend yield (DY).

Financial performance in the study is measured by Return on Assets (ROA), Return on Equity (ROE), dividend yield. ROA measures how much profit a firm can achieve using one unit of assets. It helps to evaluate the results of managerial decisions or use of assets. ROE measures the earnings generated by shareholder's equity of a period usually one year. Dividend yield compares relative attractiveness of various dividends paying stock.

Kenya's manufacturing sector is a key pillar to the economy as identified under Vision 2030 and recently identified as one of the main sectors under the Big Four agenda which can spur economic growth and development because of the immense potential for wealth creation, employment generation and poverty eradication. In addition, the sector provides impetus towards achievement of sustainable development goals (SDG) on eradication of extreme poverty, hunger and global partnerships for development both in the medium and long term (Vision, 2030). These developments in the external environment have direct impact on their performance (KAM, 2013).

The inauguration of a customs union is given for under Article 75 of the Treaty building up the EAC under the chapter on Trade Liberalization and Development signed on 2nd March 2014. The second most important pillar is a unified market (Common Market) of the five member states into a sole block marketplace with free movement of labor, goods, trade, people with a right of residence and establishment (Hartzenberg, 2011; Stahl, 2005). The third pillar is guided by the monetary Union policies bidding for cooperation by partner states in fiscal and monetary matters outline in authorized macro-economic procedures of coordination programmes of the EAC (Article 82 of the Treaty instituting the EAC). The fourth pillar is the East African Community Political Federation policies, which are expected as the last stage in the integration procedure with a rotating presidency between all the five accomplice states (Hartzenberg, 2011; Stahl, 2005).

### *Research Problem*

The focus on manufacturing is meant to reverse these emerging trends by reinvigorating the sector to increase its production, create jobs, generate incomes, offer consumers a variety of goods and services, rake-in export earnings and promote trade locally, regionally and internationally (Were, 2016).

According to EAC industrialization strategy, manufacturers subjected to similar environments have variations in performance and this could be how they have crafted strategic relationships in the wake of EAC regional integration through properly instituted strategic initiatives in place to improve efficiencies, add value, reduce wastages and promote productivity (Mold, 2015). The Kenyan manufacturing sub sectors currently operating in the EAC market include but not limited to the following; Building, Mining& Construction, Chemical & Allied, Food and Beverages, leather & footwear, Metal & Allied, Motor Vehicle & Accessories, Paper, Packaging & Board, Pharmaceutical & Medical Equipment, Plastics & Rubber, Textile & Apparels Timber and Wood & Furniture (Chege, Ngui, & Kimuyu, 2014)

The cooperation among enterprises is a widely known business phenomenon uniting into alliances for more than one century. During latter decade the number of those has significantly increased as one of the ways through which performance can be enhanced is by firms to take advantage of a common market occasioned by regional integration, which provides fertile ground for strategic alliances (Draulans, deMan & Volberda, 2003; Abell & Oxbrow, 2011). For any organization to realize its objectives, macro environment plays a critical role and should therefore be considered as it could inspire organizational bids towards meeting its objectives. The external environment could have an influence on firm performance because it provides both facilitating and inhibiting effects on firm performance (Machuki & Aosa, 2011; Bartlett and Ghoshal, 2014). How well a firm fits itself within the macro environment determines its performance since firms are environment dependent and serving. This is important for any organization that is obligated to achieve the desired goals and focused to satisfy the interests of key stakeholders (Ansoff & McDonnell, 1990; Schoemaker & Krupp, 2015).

The following are the notable research gaps guiding this study, empirical surveys by Saebi and Dong (2008) among management positions (Park & Ungson, 2001) reported failure rates of alliances between 50 and 70 percent. This can attributed to the subjective perceptions of managers who have other goals in mind when forming an alliance, which may not be directly, connected to financial performance measures. This could imply that they might consider an alliance to have failed, even though firm performance increased. There was need to therefore clear those contradictions by testing the effect of macro environment on the relation between strategic alliance on firm performance in the context of Kenyan manufacturing firms in the EAC market.

The study was limited in the geographical and sectoral context and on consideration of performance measurement where only revenue growth was determined excluding qualitative approaches of performance. Further, most of the empirical studies cited (Robson, Katsikeas & Bello & Timothy & Teye, 2008; Almeida, Song & Grant, 2002; Mlenga, 2012) adopted factor analysis, coefficient correlation and nonparametric statistical methods to measure different variables. This study will use regression analysis to moderate the effect of regional and macro

environment variables on the relationship between strategic alliances and performance of the Kenyan manufacturing in the EAC market.

Environmental dynamics have been reflected as performance determinants (Adeoye & Elegunde, 2012). While macro environmental factors have been found to impact to a greater extent on almost all organizations (Baruch, 1999), Bertalanffy and Bickis (1956) pointed out that relationship between strategic alliances and performance needs to consider environments as moderators of that relationship. Further, it is only reasonable to project that environmental variable may play an important role in strategic choice and performance (Ezzi & Jarboui, 2016).

Studies depicting business environmental dynamism to have a moderating effect have suggested that environment moderates strategy and firm performance these include; (Cool & Schendel, 1988) on foreign entry strategy and performance in public SME's in USA; (Ting, Wang & Wang, 2012) on the moderating role of environmental dynamism on the influence of innovation strategy and firm performance; Cooper & Schindler (2003) on impacts of external business environment on organizational performance in food and beverage industry in Nigeria.

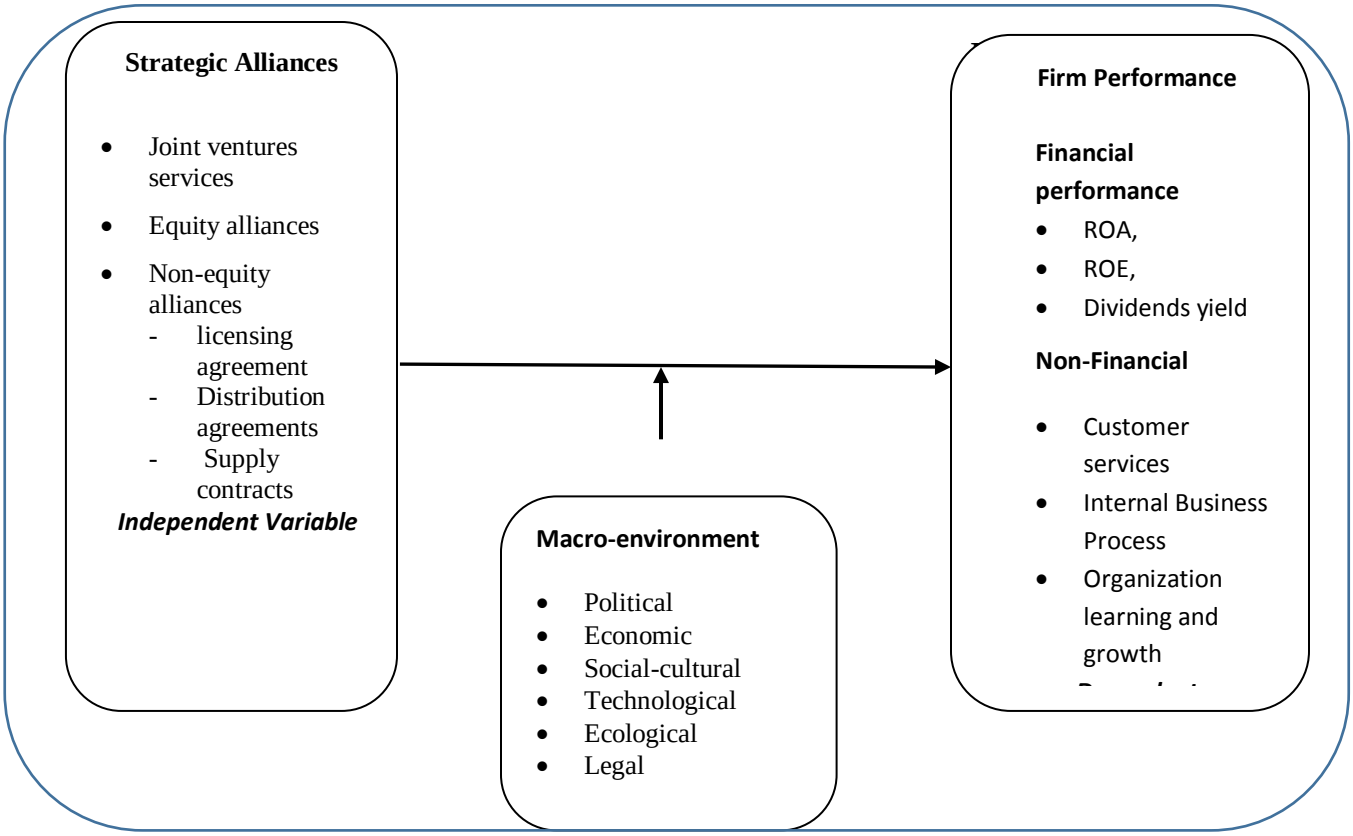
Dess and Beard (1984) found support for the moderating effects of environment on the strategy-performance relationship. Organization and environment therefore permeate one another both cognitively and relationally – that is both in the minds of actors and in the process of conducting relationships between the two as asserted by Baruch (1999). Odundo (2012) observed that Political goodwill and support had a significant effect on the relationship between extent of implementation of strategies and their financial performance. Dill (1958) found business environment as the totality of physical and social factors taken into consideration by a firm for making decisions towards high performance. Consequently, in an effort to address the above gaps the study sought to answer the question; what is the influence of macro environment on the relationship between strategic alliances and performance of Kenyan Manufacturing firms in the East African Community Market?

The objective of this study was to determine the influence of macro environment on the relationship between strategic alliance and performance of Kenyan manufacturing firms in the East African Community market.

### *Conceptual Model and Hypothesis*

The conceptual model in figure 1 below is in support for the arguments raised from literature review.

**Figure 2.1: Conceptual Model**




Source: Author, 2014

The following hypotheses were tested:

**$H_1$**: Macro environment has a significant moderating effect on the relationship between strategic alliances and performance of Kenyan manufacturing firms in the East African Community market;

*Sub hypotheses:*

**$H_{1a}$**: Macro environment has a significant moderating effect on the relationship between strategic alliances and financial performance of Kenyan manufacturing firms in the East African Community market; and

**$H_{1b}$**: Macro environment has a significant moderating effect on the relationship between strategic alliances and non-financial performance of Kenyan manufacturing firms in the East African Community market.

## Methodology of Research

### *Research philosophy*

Research philosophy refers to a system of beliefs and assumptions based on the development and nature of that knowledge (Saunders, Lewis & Thornhill, 2016). In social sciences, there are two key philosophical orientations namely; positivism and phenomenology (Hayes, 2013). This study is positivistic in nature and is modeled under the positivism paradigm that advocates for theory testing and empirically establishing a link between the study variables through generalization and predictions (Saunders & Bezzina, 2015).

At the heart of social science research philosophies lies two main viewpoints namely, positivism and phenomenology. Other philosophies include; Ontology, Epistemology, Positivism, Realism, Interpretivism, and Axiology. Positivism presumes that the social world exists objectively and externally and that knowledge is valid only if it is based on independent observations with the outcomes being generalizable and replicable (Cooper & Schindler, 2008).

Phenomenology on the other hand holds that meanings on reality and phenomena are constructed and reconstructed through qualitative approaches (Racher & Robinson, 2003). Under positivism, the researcher follows a step by step method starting with deductive reasoning, formulating hypothesis and operationalizing of the study variables based on existing theory then deducing the observations to determine the truth or falsify the hypothesis (Bryman, Bell, Mills, Albert & Yue, 2011). Hammond and Wellington (2013) posit that social behavior studies should be examined using the same techniques as those used to investigate natural sciences studies.

This study was based on a positivist philosophy. The main reason for the study to adopt the positivist philosophy was based on the argument that positivism approach is focused on theory testing as opposed to epistemology which is theory building. According to Saunders (2011), this kind of philosophy is quantitative as opposed to phenomenology which is basically a qualitative approach.

The positivist orientation enabled hypotheses testing, acceptance or rejected based on the tested results thus leading to further research (Ravitch & Riggan, 2012). Positivism seeks to unveil the fact or causes of social phenomena. The study sets to empirically and objectively analyze the relationships existing among the variables in question.

### *Research Design*

This particular study adopted a descriptive cross-sectional survey design. Descriptive studies are concerned with finding out what, when and how much of the phenomena under study (Cooper & Schindler, 2003). A cross sectional survey considers a study unit of a population at a certain point in time to allow for conclusions about phenomena under study and the entire population. The research design is suitable in the evaluation and examination to establish patterns of interrelationships amongst the study variables (Sekaran & Bougie, 2013). The research design was envisaged to offer the researcher an opportunity to collect data across different organizations and empirically test the relationship of the constructs along its

conceptualization. Mugenda and Mugenda (2003) posit that "cross-sectional studies enable the researcher to establish if significant relationships among variables exist and the strength of these relationships. Machuki (2011) opine that the research design is guided by the purpose of the study, the type of investigation, the extent of researcher involvement, the stage of knowledge in the field and the type of analysis. The foregoing design has been used successfully by Mkalama, (2014) and Guo & Kga, (2012).

***Population of the Study***

The population of the study was the Kenyan manufacturing firms in the EAC market. According to the East African Business Council (EABC, 2017) there are 160 Kenyan manufacturing firms formally operating in the EAC region. The list of the Kenyan manufacturing firms in the EAC market is attached as Appendix III. The main reason for studying the manufacturing firms is because manufacturing is key pillar of economic transformation through contribution to the Gross Domestic Product (GDP) and creation of jobs which are critical factors in the growth of the Kenyan Economy. The manufacturing sector in Kenya grew at 3.5% in 2015 and 3.2% in 2014, contributing 10.3% to gross domestic product (GDP) (Were, 2016). The manufacturing firms were subjected to membership of the Kenya Association of Manufactures (KAM) and/ or Kenya Private Sector Alliance (KEPSA) and/ or East African Business Council (EABC) guidelines and regulations on operational related matters.

The East African Business Council (EABC) and Kenya Association of Manufacturers (KAM) membership report observe that dynamism and changing environment in the regional market, the number of Kenyan Manufacturing firms operating in the EAC regional market is likely to keep changing as new ones join the regional market and others exit depending on their performance, purpose or other strategic factors. All the Kenyan manufacturing firms in EAC region were surveyed thus a census survey was considered. Israel (2012), posits that cost considerations make census technique impossible for large populations and thus census is attractive for small populations. Kothari (2004) further states that a census eliminates sampling error and provides data on all the individuals in the population. Okiro, Aduda and Omoro (2015) used census in a study targeting performance of companies listed at the East Africa Securities exchange."

***Data Collection***

Data in research is referred to as those facts collected for further investigation (Saunders, Lewis & Thornhill, 2016). Data collection techniques therefore enable the scholar to systematically collect information on research variables in the setting of occurrence and from the selected target population (Gill & Johnson, 2010). Research instruments refer to tools used to select, gather and collect data during the research process (Hammond & Wellington, 2013). The various data collection techniques used generally in social research include, questionnaires, interviews, standard tests and observation forms (Gill & Johnson, 2010). Structured questionnaires are appropriate for research studies since data is collected as requested by the researcher, is affordable and can easily be analyzed and replicated. Dillman, Smyth and Christian

(2014) caution that care must be taken as it is difficult to ascertain how truthful a respondent may be or how much thought a respondent has put in the process.

Primary data was collected by using semi-structured questionnaires attached as appendix one. Secondary data was extracted from the documents of the published Kenyan manufacturing firms operating in the EAC market including past financial statements, customer satisfaction survey reports, Internal business, learning and growth manuals and policy documents kept under custody of the KAM and EABC. All other documents which have a bearing on the topic being studied were used to complete the answers given in the questionnaires. The main respondent from each company was the CEO or their departmental heads dealing with functions related to strategy and regional markets. This is because they were deemed to have good knowledge about the issues being studied (Campbell, 1995). To enhance the completion rate, an email or text message reminder was sent after every five days to the yet to receive respondents till the response rate was deemed satisfactory.

The research questionnaires were also distributed using the drop-off and pick-up later survey method and email communication. This survey method has been suggested by scholars as an effective alternative to the post mail or telephone methods "(Cooper & Schindler, 2014). The structured questionnaire was based on five-point Likert-type scale questions. In a Likert-type scale, subjectivity is minimized and the researcher may carry out quantitative analysis (Hammond & Wellington, 2013). The questionnaire had been designed on a five-point Likert-type scale and ranged from (1) -not at all to (5) - a very large extent. Likert-type scale is the most frequently used tool of the summated rating scale and consists of statements that express either a favourable or unfavourable attitude towards the object of interest. Using the Likert-type scale, the respondent will be asked to agree or disagree with each statement (Cooper & Schindler, 2006).

The research instrument consisted of questions from previous empirical studies, theory and the researchers own questions based on the context of the study. The questionnaire was divided into five sections. Part A contained general information including mainly the demographics of the respondent. Part B covered strategic alliances while Part C covered data on regional integration. Part D covered data on macro environment while the last Part E covered data on firm's performance.

***Reliability Test***

Reliability is the consistency of measurement and concerned with estimates of the degree to which a measurement is free of random or unstable error (Cooper & Schindler, 2014). Reliability of a measure indicates the magnitude to which a measure is bias free which ensures consistency in the measuring instrument (Sekaran & Bougie, 2013). Strategies to enhance reliability of research results include; objectively scoring results, training of researchers and use of a reasonable rating scale (Dillman et al., 2014)." Creswell (2014) identified several methods of assessing reliability namely; Cronbach's alpha for internal consistency, inter-rater reliability and parallel reliability. Hayes (2013) demonstrated that the Cronbach's alpha for internal consistency involves a one test administration to measure the reliability of results across a set of

items. The intra-rate reliability tests describe each rater's consistency of the same observation over time and may try to establish whether two observations are consistent. The parallel reliability tests are a measure of reliability attained by administering different versions of a research assessment tool to identical groups of respondents (Hammond & Wellington, 2013).

This research study adopted the Cronbach's alpha coefficient test for internal consistency. Nunally (1978) and Gliem and Gliem (2003) recommends a Cronbach's alpha value of 0.7 and above as desirable, whereas, Cooper and Schindler (2014) suggest a range of 0.7 to 0.9 Cronbach's alpha coefficient to be good for reliability test. The current study had a reliability cut-off point coefficient of 0.7. In order to test the research instrument for internal reliability, a pilot study of ten (10) firms were required to respond to the research questionnaire and report any ambiguous questions, identify any defects in the questions or lack of clarity in the instructions as well as suggest any changes. Primary data was obtained from the CEOs or Managers responsible for cross border business due to the fact that these individuals hold key positions in the firms and are commercially well versed to provide the requested information. The results from the pilot study indicated that a number of variables had accepted levels of alpha values. From the outcome of the pilot study, the research questionnaire was revised and used in collecting the survey data for the study.

***Validity Test***

Validity refers to the questionnaire's ability to measure what is intended meaningfully and describe the construct accurately (Cooper & Schindler, 2014). Mugenda & Mugenda, 2003, refers validity test as the degree to which the results obtained from the analysis of the data collected represent the phenomenon under study. Validity is used in science as evaluation criteria on whether conclusions made in a study explain what happened accurately. Aiken, West and Reno (1991) further stated that validity refers to whether the research instrument is able to produce the expected measurement in a study. It determines whether the research instrument truly measures what it is intended to measure with precision (Babour, 1998). The research instrument should allow the researcher to hit the bull's eye of the research objective and the results represent general population of the study (Golafshani, 2003).

Pre-testing for validity of the questionnaire initially involved a few respondents from the study population to improve the instrument. Construct and criterion validity were carried out on the instrument by randomly pilot testing 10 senior managers dealing with cross border business from different associations of the manufacturing firms to establish if the respondents could answer the responses. The final survey did not consider these pilot groups. Questions that were unclear, inadequate or sensitive were cleaned, sorted or dropped. The study incorporated views of content experts consisting of a few lecturers from University of Nairobi, the supervisors and the researcher's group in the School of Business, University of Nairobi. The outcome of the pilot test was better review of the instrument, clear instructions and clarification on the measures to be captured that avoided unreliable results.

Factor analysis was applied to test validity construct. Construct validity shows how the instrument is measuring the target construct "(Zapolski, Guller & Smith, 2012). In extracting the

factors, Principal Component Analysis was used and Varimax rotation method applied to rotate the factors. The factors attributed to the variables were all uni-dimensional thus considered valid measurement of the study constructs.

The four ways of establishing validity include; face validity, content validity, criterion validity and construct validity (Bush, 2007). To enhance face validity, the research instrument had been enhanced using expert opinion obtained during various proposal examinations at the University of Nairobi. Additionally, a pilot study was conducted by subjecting the instrument to a small sample of three organizations to enhance content validity and determine respondent's understandability of the questions and where necessary changes were made. Finally, questions in the instrument were adopted and enhanced from previous studies.

## *Data Analysis and findings*

### Data Analysis

The analytical models used are shown in Table 3.1. All the statistical tests were conducted at 95 percent confidence level.

**Table 3.1: Hypotheses, Analytical Statistical Models and Interpretation of Results**

| Objective | Hypothesis/ Sub hypotheses | Analytical techniques | Interpretation |
|---|---|---|---|
| To determine the influence of macro environment on the relationship between strategic alliance and performance of Kenyan manufacturing firms in the East African Community market. | **$H_1$**: Macro environment has a significant moderating effect on the relationship between strategic alliances and performance of Kenyan manufacturing firms in the East African Community market;<br>*Sub hypotheses:*<br>**$H_{1a}$**: Macro environment has a significant moderating effect on the relationship between strategic alliances and financial performance of Kenyan manufacturing firms in the East African Community market; and<br>**$H_{1b}$**: Macro environment | Stepwise Regression analysis<br>$\mathbf{Y_3= \alpha_{30} +\beta_{31}X_1 +\beta_{32}X_2 +\beta_{33}X_3 + \beta_{34}W+\beta_{35} X*W + \varepsilon_1}$.....*(iii-a)*<br>$\mathbf{Y_{3a}= \alpha_{30} +\beta_{31}X_1 +\beta_{32}X_2 +\beta_{33}X_3 + \beta_{34}W+\beta_{35} X*W + \varepsilon_1}$.....*(iii-a)*<br>$\mathbf{Y_{3b}= \alpha_{30} +\beta_{31}X_1 +\beta_{32}X_2 +\beta_{33}X_3 + \beta_{34}W+\beta_{35} X*W + \varepsilon_1}$.....*(iii-b)*<br>Where:<br>$Y_3$= Firm performance<br>$Y_{3a}$= Financial performance<br>$Y_{3b}$= Non-Financial performance<br>$\alpha$= Constant (intercept)<br>$\beta_{31-34}$= Coefficient parameters to be | $R^2$ depicts model fitness and also explains the changes in dependent variable.<br>X* W = Strategic Alliances * Macro environment i.e. Product interaction between strategic alliances and Macro environment<br>With this new dummy variable (X*W) for Regional Integration, *Strategic Alliances * Macro environment* is created. An interaction effect exists where this variable gives a significant value for firm performance. The linear model from |

| Objective | Hypothesis/ Sub hypotheses | Analytical techniques | Interpretation |
|---|---|---|---|
| | has a significant moderating effect on the relationship between strategic alliances and non-financial performance of Kenyan manufacturing firms in the East African Community market. | determined<br>$\beta_{35}$= Moderating effect or change induced by X*W<br>$\mathbf{X_1}$= Joint venture alliances<br>$\mathbf{X_2}$= Equity alliances<br>$\mathbf{X_3}$= Non-equity alliances<br>W=Macro environment<br>X* W = Strategic Alliances * Macro environment i.e. Product interaction between strategic alliances and Macro environment<br>$\varepsilon_1$ = Error term | stepwise regression analysis is used, as this model (iii-a & iii-b) contains the highest explanatory power on the data.<br>P-value, F-ratio and t-statistic explains the significance of the model constructs. |

**Source: Researcher (2018)**

***Response Rate***

The study was a descriptive cross-sectional survey of 160 manufacturing firms operating in the EAC Market. Each manufacturing organization is believed to exhibit uniqueness in relation to the strategic alliances practices embraced, regional integration, strategic leadership characteristics and performance. The questionnaires were self-administered with the help of well-trained research assistants. The study targeted 160 respondents; however, the researcher received response from 131 respondents forming 81.88% response rate, which was considered adequate for analysis. This represented a response rate of 81% as indicated in Table 4.1.

**Table 4.1: Distribution of Response Rate**

| Responses | Frequency (N) | Percentage (%) |
|---|---|---|
| Total Response | 131 | 81.88 |
| Non-Response | 29 | 18.12 |
| **Total** | **160** | **100** |

**Source: Research Data, 2018**

Therefore, this study's response rate is considered very good for survey research as recommended by Punch (2003) who proposes a score of 80-98% as good response rate, whereas Mugenda and Mugenda (1999) suggest a 50% response rate is adequate, 60% good and above 70% very good.

The response rate further is supported by Fowler (1988) suggests that a response rate of 60% is representative of the population of the study. Such a high response rate for this study can be attributed to the use of introductory letters from the University and NACOSTI explaining the purpose and nature of the study, researchers reliable networks in the sector as well as the use of trained research assistants were equipped with skills on how to build rapport with respondents. The introduction letters from KAM, KEPSA and EABC were also useful in dissipating suspicion by firms about the intentions of the study and encouraging cooperation during the data collection process. The relationship management approach and personal networks amongst the business community operating in the region by the researcher were useful in getting a very good response rate.

***Reliability Tests***

Reliability is a measure of the degree to which instruments yield consistent results or data after repeated trials "(Kimberlin & Winterstein, 2008; Mugenda & Mugenda, 2003). It establishes if the measure is able to yield same results on other occasions or that similar observations are reached by other observers. A pilot study using volunteers from five manufacturing organizations that were not included in the sample was undertaken. The questionnaire was developed by adopting some of the existing scales from extant literature (Kinuu, 2014; Mutuku, KObonyo, Awino & Musyoka, 2013; Muchemi, 2013; Waweru, 2011).

The study further takes in to account the argument that, it is important that the measurement instrument is reliable for it to measure consistently (Mugenda and Mugenda, 2003; Saunders, 2007; Cooper and Schindler, 2014). Cronbach coefficient was used to assess the internal consistency or average correlation of items within the test. The coefficient alpha value ranges from zero (no internal consistency) to one (complete internal consistency) were used.

Cronbach coefficient, which was used to assess the internal consistency or average correlation of items within the test, was used. Alpha equals zero when the true score is not measured at all and there is only an error component. Alpha equals 1.0 when all items measure only the true score and there is no error component. If the values are too low, either too few items were used or the items had little in common (Nunnally, 1998). His suggestion is that of a value of not less than 0.7 to be acceptable while Sekeran (2003)" posits that any values between 0.5 and 0.8 are adequate to accept internal consistency. Table 4.2 presents the alpha values of the questionnaire items.

The results of the reliability tests carried out in Table 4.2 show that strategic alliances had the lowest coefficient ($\alpha = 0.714$). Nunnally (1978) recommends Cronbach's alpha coefficient of 0.7 as the cut-off point for reliability, Davis & Bruin (1964) suggests 0.5 as the minimum reliability coefficient. While Sekeran (2003) posits that any values between 0.5 and 0.8 are adequate to accept internal consistency. Macro environment had the highest reliability coefficient ($\alpha = 0.924$) followed by firm performance ($\alpha = 0.880$). The results for all the variables are above the 0.7. This was confirmation of reliability and validity of the data used to draw conclusions from theoretical concepts.

**Table 4.2: Reliability Tests**

| Variable | Variable constructs/Indicators | No. of Items | Cronbach's alpha value | Decision |
|---|---|---|---|---|
| Strategic alliances | • Joint ventures services<br>• Equity alliances<br>• Non-equity alliances<br>- licensing agreement<br>- Distribution agreements<br>- Supply contracts | 17 | 0.714 | **Reliable** |
| Macro-environment | • Political<br>• Economic<br>• Social-cultural<br>• Technological<br>• Ecological<br>• Legal | 30 | 0.924 | **Reliable** |
| Firm performance | • Financial<br>• Customer services"<br>• Internal Business Process<br>• Organization learning and growth | 28 | 0.880 | **Reliable** |

**Source: Research Data, 2018**

***Validity Test***

Validity is the ability of the research instrument to measure what is supposed to measure "(Cooper & Schindler, 2006). If the instrument contains a representative sample of the universe subject matter, then the validity is good. There are various types of validity including construct, content, face and criterion related validity. In this study content and construct validity were measured. Content validity is the extent to which the instrument provides adequate coverage of the investigative questions guiding the study. Content validity is also known as logical validity and refers to the extent to which a measure represents all facets of a given social construct."

The researcher used expert judgment from a few lecturers of the University of Nairobi, School of Business, the supervisors and the researcher's seniors in the School of Business, university of Nairobi. The questionnaire was also pilot tested by administering to a few manufacturing organizations CEOs among those not under this study to establish if the respondents could answer the responses with ease. Ambiguous, double edged and sensitive questions were cleaned, sorted or dropped. This was successfully done by Machuki (2011) and Munyoki (2007).

***Test of Normality***

The Shapiro-Wilk test was employed to test for normality. This test establishes the extent of normality of the data by detecting existence of skewness or kurtosis or both. Shapiro-Wilk statistic ranges from zero to one with figures higher than 0.05 indicating that the data is normal (Razali and Wah, 2011).

**Table 4.3: Test of Normality**

| Study Variables | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | df | Sig. | Statistic | Df | Sig. |
| Strategic Alliances | .096 | 131 | .005 | .969 | 131 | .204 |
| Macro Environment | .081 | 131 | .036 | .935 | 131 | .400 |
| Firm Performance | .086 | 131 | .019 | .978 | 131 | .232 |
| a. Lilliefors Significance Correction | | | | | | |

**Source: Research Data, 2018**

Normality was tested using the Shapiro-Wilk test and the results showed that all the variables were above 0.05 ($p > 0.05$) hence confirming data normality. Normality assumes that the sampling distribution of the mean is normal. As shown in Table 4.2, p-values for the Sharipo-Wilk tests were 0.204 for strategic alliances, 0.100 for regional integration, 0.400 for macro environment and 0.232 for firm performance.

***Test of Multicollinearity***

Multicollinearity is a phenomenon whereby high correlation exists between the independent variables. It occurs in a multiple regression model when high correlation exists between these predictor variables "leading to unreliable estimates of regression coefficients. This leads to strange results when attempts are made to determine the extent to which individual independent variables contribute to the understanding of dependent variable (Creswell, 2014).

The consequences of Multicollinearity are increased standard error of estimates of the Betas, meaning decreased reliability and often confusing and misleading results. Multicollinearity test was conducted to assess whether high correlation existed between one or more variables in the study with one or more of the other independent variables. Variance inflation factor (VIF)" measured correlation level between the predictor variables and estimated the inflated variances due to linear dependence with other explanatory variables. A common rule of thumb is that VIFs of 10 or higher (conservatively over 5) points to severe multi-collinearity that affects the study (Newbert, 2008). A tolerance threshold value of below 0.2 indicates that collinearity is present (Menard, 2000). Table 4.4 presents the result of tests for Multicollinearity.

**Table 4.4: Test for Multicollinearity**

| Coefficients[a] | | | |
|---|---|---|---|
| Model | | Collinearity Statistics | |
| | | Tolerance | VIF |
| | Strategic Alliances | .954 | 1.049 |
| | Macro Environment | .828 | 1.208 |
| a. Dependent Variable: Firm Performance | | | |

**Source: Research Data, 2018**

As shown in Table 4.4 the results revealed no problem with multicollinearity. The variables of the study indicated VIF values of between 1.049 and 1.212 which is less than the Figure recommended by the rule of thumb. This indicated that the data set displayed no multicollinearity.

***Test of Homoscedasticity***

Homoscedasticity was measured by Levene's test. This test examines whether or not the variance between independent and dependent variables is equal. If the Levene's Test for Equality of Variances is statistically significant $\alpha = 0.05$ this indicates that the group variances are unequal. It is a check as to whether the spread of the scores in the variables are approximately the same.

**Table 4.5: Tests for Test of Homogeneity of Variances**

| Study Variables | Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|---|
| Strategic Alliances | 2.495 | 20 | 103 | .071 |
| Macro Environment | 1.772 | 20 | 103 | .134 |

**Source: Research Data, 2018**

From the results in Table 4.5, P-values of Levene's test for homogeneity of variances were greater than 0.05. The test therefore was not significant at $\alpha = 0.05$ confirming homogeneity.

**Hypothesis Testing**

The study sought to determine the influence of macro environment on the relationship between strategic alliances and performance of Kenyan manufacturing firms in the East African Community market. A moderation or interaction effect states that the effect of macro environment on $Y_3$ (firm performance) depends on the magnitude of strategic alliances. The most

significant indicators of (X*W) were *Equity Alliances*Political Environment (*new dummy variable for *Strategic Alliances * Macro environment)*. Hence, the need to test whether the interaction effect exists where this variable gives a significant value for firm performance through stepwise regression analysis. To test this hypothesis, Baron and Kenny (1986), Norton et al., (2004) and MacKinnon (2011) procedures were explored in testing the main and sub hypotheses as.

The main hypotheses was tested hypothezed that:

*$H_{A1}$: Macro environment has a significant moderating effect on the relationship between strategic alliances and performance of Kenyan manufacturing firms in the East African Community market*

Table 5.1: Model Goodness of fit of Strategic Alliances, Macro environment and Overall Firm Performance

| Model Goodness of Fit | | | | | ANOVAa | | |
|---|---|---|---|---|---|---|---|
| **Model** | **R** | **R Square** | **Adjusted R Square** | **Std. Error of the Estimate** | **Mean Square** | **F** | **Sig.** |
| 1 | .674b | .454 | .450 | .69948 | 52.480 | 107.261 | .000[b] |
| 2 | .736c | .541 | .534 | .64371 | 31.280 | 75.490 | .000[c] |
| 3 | .792d | .627 | .618 | .58258 | 24.165 | 71.199 | .000[d] |
| 4 | .819e | .671 | .661 | .54909 | 19.402 | 64.353 | .000[e] |
| 5 | .836f | .699 | .686 | .52802 | 16.149 | 57.923 | .000[f] |

a. Dependent Variable: lnFirm Performance (Final Index)

b. Predictors: (Constant), Equity Alliances

c. Predictors: (Constant), Equity Alliances, Joint services and cooperation

d. Predictors: (Constant), Equity Alliances, Joint services and cooperation, Legal

e. Predictors: (Constant), Equity Alliances, Joint services and cooperation, Legal, Equity Alliances*Political Environment

f. Predictors: (Constant), Equity Alliances, Joint services and cooperation, Legal, Equity Alliances*Political Environment, Technological

From the results in Table 5.1 above, it can be observed that as one moves from stepwise model number one (1) to five (5), the standard error of the estimate keeps decreasing from 0.69948 to 0.52802 as so does the F values from 107.261to 57.923. The adjusted $R^2$ also keeps

on improving from 0.450 to 0.686. Although all models are significant, the stepwise model number five is a good predicator (at 68.6%) of the significant moderating effect by macro environment on the relationship between strategic alliances and performance of Kenyan manufacturing firms in the East African Community market.

The stepwise regression model number five (5) shows a moderately strong significant moderating effect by macro environment on the relationship between strategic alliances and performance of Kenyan manufacturing firms in the East African Community market, implying that the strategic alliances and macro environment explain 68.6% of the changes in overall firm performance. Although the strategic alliances alone are able to explain 53.4% of the variance in the overall firm performance, when combined with the macro environment they explain 68.6% of the variations in the overall firm performance. The magnitude of macro environment's moderating effect on the relationship between strategic alliances and overall firm performance is 15.2% (68.6% -53.4%).

The coefficients of this predicative model aimed at addressing the macro environment's moderating effect on the relationship between strategic alliances and overall firm performance in model number four of the data analysis are given as in the Table 5.2 below.

**Table 5.2: Model Regression Coefficients of Strategic Alliance, Macro environment and Overall Firm Performance**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 3.523 | .530 | | 6.650 | .000 |
| | Equity Alliances | 1.523 | .147 | .674 | 10.357 | .000 |
| 2 | (Constant) | 2.473 | .532 | | 4.648 | .000 |
| | Equity Alliances | 1.169 | .153 | .517 | 7.634 | .000 |
| | Joint services and cooperation | .677 | .137 | .334 | 4.932 | .000 |
| 3 | (Constant) | 4.061 | .564 | | 7.202 | .000 |
| | Equity Alliances | 1.241 | .139 | .549 | 8.915 | .000 |
| | Joint services and cooperation | .683 | .124 | .337 | 5.496 | .000 |
| | Legal | -.540 | .100 | -.295 | -5.410 | .000 |
| 4 | (Constant) | 3.248 | .567 | | 5.727 | .000 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Equity Alliances | 1.804 | .190 | .798 | 9.521 | .000 |
| | Joint services and cooperation | .772 | .119 | .381 | 6.481 | .000 |
| | Legal | -.468 | .096 | -.256 | -4.893 | .000 |
| | Equity Alliances*Political Environment | .135 | .033 | .350 | 4.119 | .000 |
| 5 | (Constant) | 4.347 | .636 | | 6.833 | .000 |
| | Equity Alliances | 1.757 | .183 | .778 | 9.615 | .000 |
| | Joint services and cooperation | .733 | .115 | .362 | 6.372 | .000 |
| | Legal | -.430 | .093 | -.235 | -4.634 | .000 |
| | Equity Alliances*Political Environment | .121 | .032 | .315 | 3.829 | .000 |
| | Technological Environment | -.319 | .095 | -.168 | -3.355 | .001 |

a. Dependent Variable: lnFirm Performance (Final Index)

The macro environment's moderating effect on the relationship between strategic alliances and overall firm performance thus can be written as:

$$Y_3 = 0.778\ EA + 0.362\ JSC - 0.235\ LE + 0.315\ X*W + 0.168\ TE$$

Where:

$Y_3$ = Firm performance

EA = Equity alliances

LE = Legal Environment

JSC = Joint services and cooperation

X*W = Equity Alliances*Political Environment

TE = Technological Environment

The product variable of regional integration and strategic alliances (Equity Alliances*Political Environment) is the measure of whether macro environment is a significant moderator on the relationship between strategic alliances and overall firm performance. Given

that the dummy product variable of *Equity Alliances*Political Environment* is included in the model which has the net positive magnitude (β=0.315, t=3.829, P<0.000) of 15.2% , then study therefore accepts the hypothesis ($H_1$) that macro environment moderates the effect of strategic alliances on performance of Kenyan manufacturing firms in the EAC market. Main hypothesis 3 is thus accepted.

The first sub hypothesis is shown as:

*$H_{A1a}$: Macro environment has a significant moderating effect on the relationship between strategic alliances and financial performance of Kenyan manufacturing firms in the East African Community market*

Table 5.3: Model Goodness of Fit of Strategic Alliances, Macro Environment and Financial Performance

| **Model Goodness of Fit** | | | | | **ANOVAa** | | |
|---|---|---|---|---|---|---|---|
| Model | R | R Square | **Adjusted R Square** | **Std. Error of the Estimate** | **Mean Square** | **F** | **Sig.** |
| 1 | .447b | .199 | .193 | 1.85300 | 110.308 | 32.126 | .000[b] |
| 2 | .507c | .257 | .245 | 1.79198 | 71.105 | 22.143 | .000[c] |
| 3 | .555d | .308 | .292 | 1.73631 | 56.790 | 18.837 | .000[d] |

a. "Dependent Variable: LnFinancial Performance (Final Index)

b. Predictors: (Constant), Equity Alliances

c. Predictors: (Constant), Equity Alliances, Joint services and cooperation

d. Predictors: (Constant), Equity Alliances, Joint services and cooperation, Equity Alliances*Political Environment

From the model above in Table 5.3, it can be observed that as one moves from stepwise model number one to three, the standard error of the estimate keeps decreasing from 1.85300 to 1.73631 as so does the F values from 32.126 to 18.837. The adjusted $R^2$ also keeps on improving from 0.193 to 0.292. Although all models are significant, the stepwise model number three (3) is a good predicator of the significant moderating effect by Macro environment on the relationship between strategic alliances and financial performance of Kenyan manufacturing firms in the East African Community market.

The stepwise regression model number three shows a moderately strong significant moderating effect by Macro environment on the relationship between strategic alliances and financial performance of Kenyan manufacturing firms in the East African Community market, implying that the strategic alliances and Macro environment explain 29.2% of the changes in

financial performance. Although the strategic alliances alone are able to explain 25.1% of the variance in financial performance, when combined with the Macro environment they explain 29.3% of the variations in the financial performance. The magnitude of Macro environment's moderating effect on the relationship between strategic alliances and financial performance is 4.1% (29.2% -25.1%).

The coefficients of this predicative model aimed at addressing the Macro environment's moderating effect on the relationship between strategic alliances and financial performance in model number three of the data analysis are given as in Table 5.4.

Table 5.4: Model Regression Coefficients of Strategic Alliance, Macro environment and Financial Performance

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 10.044 | 1.404 | | 7.156 | .000 |
| | Equity Alliances | 2.208 | .390 | .447 | 5.668 | .000 |
| 2 | (Constant) | 8.175 | 1.481 | | 5.520 | .000 |
| | Equity Alliances | 1.578 | .426 | .319 | 3.703 | .000 |
| | Joint services and cooperation | 1.205 | .382 | .272 | 3.152 | .002 |
| 3 | (Constant) | 11.557 | 1.812 | | 6.378 | .000 |
| | Equity Alliances | 1.770 | .418 | .358 | 4.237 | .000 |
| | Joint services and cooperation | 1.167 | .371 | .263 | 3.150 | .002 |
| | Equity Alliances*Political Environment | 1.074 | .352 | .228 | 3.056 | .003 |

a. Dependent Variable: LnFinancial Performance (Final Index)

The regional integration's moderating effect on the relationship between strategic alliances and financial performance thus can be written as:

$$Y_{1a} = 0.358\ EA + 0.263\ JSC + 0.228\ X*W$$

Where:

$Y_{3a}$ = Financial performance

EA = Equity alliances

JSC = Joint services and cooperation

X*W = Equity Alliances*Political Environment

The product variable of Macro environment and strategic alliances (Equity Alliances*Political Environment) is the measure of whether Macro environment is a significant moderator on the relationship between strategic alliances and financial performance. Given that the dummy product variable of Equity Alliances*Political Environment is included in the model which has the net positive magnitude (β=0.228, t=3.056, P<0.003) of 4.1% , then study therefore accepts the hypothesis ($H_{1a}$) that macro environment moderates the effect of strategic alliances on financial performance of Kenyan manufacturing firms in the EAC market. Sub hypothesis 1(a) is thus accepted.

The second sub hypothesis is shown as;

*$H_{A1b}$: Macro environment has a significant moderating effect on the relationship between strategic alliances and non-financial performance of Kenyan manufacturing firms in the East African Community market.*

Table 5.4: Model Goodness of Fit of Strategic Alliances, Macro environment and Non-financial Performance

| **Model Goodness of Fit** | | | | | **ANOVAa** | | |
|---|---|---|---|---|---|---|---|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Mean Square | F | Sig. |
| 1 | .199[a] | .039 | .032 | 1.61374 | 13.780 | 5.292 | .023[b] |

a. Dependent Variable: LnNon-Financial Performance (final Index)

b. Predictors: (Constant), Joint services and cooperation

From the model above in Table 5.4, it can be observed that only one model is significant. The adjusted $R^2$ is 3.2%. This is an indication that macro environment is not a significant

moderator on the relationship between strategic alliances and non-financial performance of Kenyan manufacturing firms in the East African Community market.

Although the strategic alliances alone are able to explain 3.5% of the variance in non-financial performance, when combined with the macro environment they explain 3.2% of the variations in the non-financial performance. The magnitude of macro environment's moderating effect on the relationship between strategic alliances and non-financial performance negative 0.3% (3.2% -3.5%).

The coefficients of this predicative model aimed at addressing the macro environment's moderating effect on the relationship between strategic alliances and non-financial performance are given as in the Table 5.5 below.

Table 5.5: Model Regression Coefficients of Strategic Alliance, macro environment and Non-financial Performance

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 6.579 | 1.050 | | 6.268 | .000 |
| | Joint services and cooperation | .700 | .304 | .199 | 2.300 | .023 |

a. Dependent Variable: LnNon-Financial Performance (final Index)

The macro environment's moderating effect on the relationship between strategic alliances and non-financial performance thus can be written as:

$$Y_{3b} = 0.199JSC$$

Where:

$Y_{3b}$ = Non-Financial Performance

JSC = Joint services and cooperation

The absence of the product variable of macro environment and strategic alliances (Equity Alliances*Political Environment) with a negative increase in $R^2$ indicates macro environment is not a moderator on the relationship between strategic alliances and non-financial performance. The study therefore rejects the hypothesis ($H_{1b}$) that macro environment moderates the effect of

strategic alliances on non-financial performance of Kenyan manufacturing firms in the EAC market. Sub hypothesis 1(b) is thus rejected.

**Discussion of the Findings**

The following section discusses the results of this study in line with the research objectives and the hypotheses formulated. The results from the test of hypotheses are compared with the findings of previous studies. These were formulated based on existing literature, both conceptual and empirical, and led to the development of conceptual model, which outlined the relationships between the variables. The study also determined how macro environment conceptualized as a moderating variable affects the relationship between strategic alliances and performance of Kenyan manufacturing firms in the EAC market. In order to test for this influence, a corresponding hypothesis $H_1$ that states that macro environment moderates the relationship between strategic alliances and performance of Kenyan manufacturing firms in the EAC market was formulated.

A moderation or interaction effect states that the effect of macro environment on Y (firm performance) depends on the magnitude of strategic alliances. The most significant indicators of (X*W) were *Equity Alliances*Political Environment (*new dummy variable for *Strategic Alliances * Macro environment)*. The study finding established that macro environment significantly moderate the relationship between strategic alliances and firm performance and thus the hypothesis that macro environment moderates the relationship between strategic alliances and performance was supported. The relationship of the interaction term of strategic alliance and macro environment on one hand and firm performance on the other hand are statistically significant. These findings are supported by Baruch, (1999), Dill (1958) and Dess & Beard (1984).

Organization and environment therefore permeate one another both cognitively and relationally – that is both in the minds of actors and in the process of conducting relationships between the two as asserted by Baruch, 1999. Dess & Beard (1984) who found support for the moderating effects of environment on the strategy-performance relationship. Dill (1958) noted that the business environment is the totality of physical and social factors taken into consideration by a firm for making decisions towards high performance.

The results for sub hypothesis (1a) confirms that macro environment moderates the relationship between strategic alliances and financial performance (68.6%) as well as to sub hypothesis (1b) which confirms that macro environment moderates the relationship between strategic alliances and non-financial performance (29.2%). The strong relationship with both financial and non-financial performance is because of the presence of the product variable of *Equity Alliances*Political Environment (*new dummy variable for *Strategic Alliances * Macro environment)*.

The results for sub hypothesis (1a &b) implies that the macro environment can be conceptualized to mean all those elements existing beyond the limits of the organization that may influence it directly or indirectly (Hall, 2004) or from the perspective of the open system

approach that one should attach great importance to the idea that since organizations exist in a dynamic environment their resources are strongly affected by the forces of their environment (Lumpkin & Dess, 2001). These consist of the political, economic, socio-cultural, technological, ecological, legal (PESTEL) factors that directly or indirectly affect the operations of the company (Ülgen & Mirze, 2007; Yüksel, 2012). The macro environmental factors present firms with opportunities, threats and constraints, but rarely does a single firm exert any meaningful reciprocal influence (Pearce et al, 2008)."

Kenyan manufacturing firms' success in the EAC market will depend on how they understand the dynamics of the regional market and their ability to strategically manage macro environment factors in relation to their strategic alliances. The combination effect of the two creates a framework that positively affects performance. Success of these firms depends partly on a proper match or balance between macro environment dimensions and strategic alliances and this match is expected to have a positive impact on their performance. Therefore, best scan of macro environment is very crucial for Kenyan manufacturing firms in the EAC market in pursuit to their individual performance goals.

## Conclusion

Influence of macro-environment on the relationship between strategic alliances and Kenyan manufacturing firms in the EAC market had statistically significant influence on firm performance, and was confirmed. it was established that macro environment also moderates the effect of strategic alliances on performance of Kenyan manufacturing firms in the EAC market and the interaction relationship is statistically significant thereby accepting the hypothesis, that macro environment moderates the effect of the relationship between strategic alliances and performance of Kenyan manufacturing firms in the EAC market. The findings therefore inform firms that for the confirmed hypotheses, they need to be keen on the influence of the external environmental attributes.

## Summary of Research Findings

The objective of the study was to establish the effect of macro environment on the relationship between strategic leadership and performance of manufacturing firms in the EAC market. The study supported the hypothesis that the macro environment moderates the relationship between strategic alliances and performance and the effect is statistically significant.

**Table 6.1: Summary of Hypothesis Testing and Decision Effect of Macro Environment on the Relationship between Strategic Leadership and Performance**

| Objective | Hypothesis/ Sub hypotheses | R | $R^2$ | Adjusted $R^2$ | Decision |
|---|---|---|---|---|---|
| To determine the influence of macro environment on the relationship between strategic alliance and performance of Kenyan manufacturing firms in the East African Community market; and | **$H_{A1}$**: "Macro environment has a significant moderating effect on the relationship between strategic alliances and performance of Kenyan manufacturing firms in the East African Community market; | .836f | .699 | .686 | Accept |
| | *Sub hypotheses:*<br><br>**$H_{A1a}$**: Macro environment has a significant moderating effect on the relationship between strategic alliances and financial performance of Kenyan manufacturing firms in the East African Community market; and | .555d | .308 | .292 | Accept |
| | **$H_{A1b}$**: Macro environment has a significant moderating effect on the relationship between strategic alliances and non-financial performance of Kenyan manufacturing firms in the East African Community market." | .199[a] | .039 | .032 | Accept |

**Source:** Researcher (2019)

The construct of macro environment is one of the external environmental factors that take place outside of the organization and are harder to predict and control. The construct of macro environment was operationalized in terms of political, economic, social, ecological and legal aspects. The average mean score of political environment is 3.603. The highest agreed statement was that electioneering affects business in the EAC market.

The aspect of managers focusing on stakeholders' interest in operations was found to be good for businesses. Moreover, changes of political regimes were found to influence operations of businesses within EAC market. The engagements between governments with private sectors were also found to improve business operations. To a moderate extent, political stability was found to be key issue to business operations within EAC market. Likewise, state policies on private sector were found to moderately influence business. It was further revealed that the respondents varied less on the statements of political environment implying that it manifests to a great extent in the Kenyan manufacturing firms in the EAC market. Economic environment as a

construct of macro environment was determined by the study using different attributes that are deemed to measure its manifestations in the surveyed Kenyan manufacturing firms in the EAC.

From the responses, it can be seen that changes in tax regime and policies influence business operations to a larger extent. Fluctuations in foreign exchange rates were found to affect costing and competitive strategy to a large extent. Level of country's economic development was found to be critical for business. The study as well realized that currency conversion affected businesses with EAC market. In the same way budget allocation to promote business investment motivated performance of firms to a large extent. The study therefore depicts that economic environment is a key manifestation in the Kenyan manufacturing firms in the EAC market.

Given the results, it can be argued that the aspects that stood out to be key drivers in socio-cultural environment included social cultural population of host country affecting business operations, historical issues influencing decisions, and crime acts and acts of terrorism influencing partnership choices. Furthermore, ethnic and tribal inclinations were found to assist business managers in making critical decisions to a moderate extent.

The issue of social cultural demands of host country influencing culture and norms moderately affected socio-cultural environment. To a great extent, gender issues were found to influence businesses in EAC market to a moderate extent. Generally, all the aspects measured under socio-cultural environment were found to moderately influence firm performance. The variation in the responses was also high implying that respondents varied sharply among the surveyed firms on the aspect of socio-cultural environment.

The average mean score as far as technological environment is concerned is 3.46. This is a moderate mean implying that the construct of technological environment manifests itself moderately among the surveyed firms. From the responses displayed, it can opinionated that to a large extent, technology affected operations of business within the EAC. However, cash transfer policy and banking ICT policy was found to affect businesses in EAC market to a moderate extent. Similarly, to a moderate extent, ICT literacy level was found to be one of the key drivers of business performance within EAC. Generally, all the aspects of technological environment affected business performance to a moderate extent.

The average mean score of ecological environment is 3.573. This is a strong mean indicating that ecological environment manifests highly among Kenyan manufacturing firms in the EAC market. Issues of ecology and environment were found to affect business operations to a larger extent. Likewise, ecological environment policy on adherence also affected business decisions. The results therefore show that ecological environment is of importance in determining the operations of the firms surveyed. The coefficient of variation for all the items was 0.24 implying that no variation among responses was detected.

From the results, it can be deduced that to a large extent, the aspect of legal environment ensured that good governance was being adhered to. Equally, to a large extent, business legal requirements of host country affects business establishment. On the other hand, processing business license in host country was moderately easy. With an average mean score of 3.496, it could be inferred that all the items in the legal environment influence performance to a moderate extent.

The statement with the highest coefficient of variation was that processing of business license in a host country is easy while the statement with low coefficient of variation was that the legal environment ensures good governance is adhered to. This range is small implying that the respondents did not differ much on the statements across the firms.

**Contributions to Management Practice**

Strategic alliances dimensions manifest differently in the Kenyan manufacturing firms in the EAC market sector. Some dimensions are significant while others are not on the different indicators of firm performance. It is therefore prudent for Kenyan manufacturing firms in the EAC market to understand the strategic alliances dimensions in the regional context in order to carry out frequent analysis and develop strategic approaches relevant to their firms' performance. Investors and their managers who are responsible for cross border investments and keen on developing strategic alliances may have to either adapt to changing external environment conditions or to proactively influence policy dimensions on the external macro-environment and hence they will find the results of this study useful.

The findings that regional integration and macro environment positively influence the relationship between strategic alliances and performance, will certainly be useful in making key managerial and operational decisions. The positive effects have higher contributions to the performance and this implies that investors and their strategic managers should concentrate not only on monitoring the strategic behavior and culture but also on building on the areas that impact on performance. This should form the basis of how decisions related to regional integration has to be observed by the firm. They should not pay excessive attention to one factor as the performance is imperative.

The focus on identifying and developing macro environment and regional integration significantly related to performance in their strategic alliances dimensions and adjust their focus and strategies accordingly. The management has to note that performance is a constellation of factors. The Kenyan manufacturing firms in the EAC market are highly encouraged to take advantage of regional integration in relation to the changes in the strategic behavior and environment. This will allow them to benefit more from their unique resources and processes in order to improve its performance to achieve a competitive advantage.

The results of this study will help management practitioners to make long term strategic allainces to address constraints faced by the Kenyan manufacturing firms in the EAC market that could have led to low capacity utilization and productivity in the sector. They will be able to source funds for research and development for better quality products. The managers will also be able to address their internal weakness for example, the inefficient and capacity to assess use of strategic alliances.

**Suggestions for Further Research**

Future research should also focus on firms outside the EAC market, and across other sizes of firms in order to determine whether the conclusions reached in this study are applicable in the context of other areas of Kenya's business community. For instance, future research should include coverage of firms operating in Agriculture, Tourisms, Infrastructure, energy and trade in

services sectors. Again, further research is encouraged on aspects of SMEs contribution to the EAC region. The present study relies on a single informant who had knowledge of the firms' activities and their level of commitment.

However, the use of multiple respondents from each firm is preferable and would cure aspects of bias and possibly provide fairly more credible data. Multiple respondents could be chosen from several departments (marketing, finance) and from various management levels, so that the analysis could be extended to assess how employees in separate departments and at various management levels perceive with respect to the major variables in the study.

**References**

Abell, A., & Oxbrow, N. (2001). Competing with knowledge: The information professional in the knowledge management age. *Library Management*, *22*(8-9), 422-429.

Adeoye, A. O., & Elegunde, A. F. (2012). Impacts of external business environment on organisational performance in the food and beverage industry in Nigeria. *British Journal of Arts and Social Sciences*, *6*(2), 194-201.

Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.

Almeida, P., Song, J., & Grant, R. M. (2002). Are firms superior to alliances and markets? An empirical test of cross-border knowledge building. *Organization Science*, *13*(2), 147-161.

Ansoff, H. I., & McDonnell, E. J. (1990). *Implanting strategic management*. New York: Prentice hall.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173.

Bartlett, C. A., &Ghoshal, S. (2014). Building competitive advantage through people. *Sloan Management Review*, 43(2), 34–41.

Baruch, Y. (1999). Response rate in academic studies—A comparative analysis. *Human Relations*, *52*(4), 421-438.

Baum, R. J., & Wally, S. (2003). Strategic decision speed and firm performance. *Strategic management journal*, *24*(11), 1107-1129.

Bryman, A., E. Bell, A. J. Mills, & A. R. Yue. (2011). *Business Research Methods*. First Canadian Edition. Toronto: Oxford University Press.

Bush, T. (2007). Authenticity in research–reliability, validity and triangulation. *Research methods in educational leadership and management*, *91*.

Chege, J., Ngui, D., & Kimuyu, P. (2014). *Scoping paper on Kenyan manufacturing* (No. 2014/136). WIDER Working Paper.

Cool, K., & Schendel, D. (1988). Performance differences among strategic group members. *Strategic Management Journal*, *9*(3), 207-223.

Cooper, D. R., & Schindler, P. S. (2014). *Business Research Methods. Data Preparation and Description.* Singapore, MAL: McGraw-Hill.

Cooper, D. R., Schindler, P. S., & Sun, J. (2006). *Business research methods* (Vol. 9). New York: McGraw-Hill Irwin.

Cooper, D.R., & Schindler, P.S. (2003). Business Research Methods. (8th ed.). Boston: 15 McGraw-Hill Irwin.

Cooper, J., & Schindler, M. (2008). *Perfect Sample Size in Research.* New Jersey: McGraw-Hill.

Creswell, J. W. (2014). *A concise introduction to mixed methods research*. Sage Publications.

Das, T. K. & Teng, B. (2000) "A resource based theory of strategic alliances", *Journal of Management,* 26(1), 31-61.

Davis Jr, W., & De Bruin, H. J. (1964). New activity coefficients of 0–100 per cent aqueous nitric acid. *Journal of Inorganic and Nuclear Chemistry*, *26*(6), 1069-1083.

Dess,G. G., & Beard, D. W. (1984). Dimensions of organizational task environments. *Administrative Science Quarterly*, 52-73.

Dill, W. R. (1958). Environment as an influence on managerial autonomy. *Administrative Science Quarterly*, 2(4), 409-443.

Dodourova, M. (2009). Alliances as strategic tools: A cross-industry study of partnership planning, formation and success. *Management Decision*, *47*(5), 831-844.

Doz, Y. L. (1996). The evolution of cooperation in strategic alliances: initial conditions or learning processes?. *Strategic management journal*, *17*(S1), 55-8.

Draulans J., deMan A.P. and Volberda H.W. (2003). Building Alliance Capability: Management Techniques for Superior Alliance Performance. *Long Range Planning,* 36, 151-166.

East African Community (EAC). (2012). East African Community, [online] available: http://www.eac.int/ . (Oct 14, 2012).

Ezzi, F., & Jarboui, A. (2016). Does innovation strategy affect financial, social and environmental performance? *Journal of Economics, Finance and Administrative Science*, *21*(40), 14-24.

Fowler, C. W. (1988). Population dynamics as related to rate of increase per generation. *Evolutionary Ecology*, *2*(3), 197-204.

Gill, J. and Johnson, P. (2010) Research Methods for Managers. 4th ed. London: Sage

Gliem, J. A., & Gliem, R. R. (2003). *Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales.* Midwest Research-to-Practice Conference in Adult, Continuing, and Community Education.

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The qualitative report*, *8*(4), 597-606.

Guo, Z., & Kga, U. K. (2012). Corporate governance and firm performance of listed firms in Sri Lanka. *Procedia-Social and Behavioral Sciences*, *40*, 664-667.

Hall, R. (2004). A political economy of land reform in South Africa. *Review of African Political Economy*, *31*(100), 213-227.

Hammond, M., & Wellington, J. (2013). *Key Concepts in Social Science Research.* London: Routledge

Hannan, M. T., & Freeman, J. (1993). *Organizational ecology*. Harvard University Press.

Hartzenberg, T. (2011). Regional integration in Africa. *Available at SSRN 1941742*.

Hayes, J. R. (2013). *The complete problem solver*. New York, Routledge.

Herbane, B. (2010). The evolution of business continuity management: A historical review of practices and drivers. *Business History*, *52*(6), 978-1002.

Israel, A. (2012). *The Value of Public Transportation for Improving the Quality of Life for the Rural Elderly* (Doctoral dissertation, Texas A & M University).

Kanter, R. M. (1994). Collaborative advantage. *Harvard business review*, *72*(4), 96-108.

Kaplan, R. S., & Norton, D. P. (1992). The balanced scorecard: measures that drive performance. *Harvard Business Review, 70*(1):71-9.

Kimberlin, C. L., & Winterstein, A. G. (2008). Validity and reliability of measurement instruments used in research. *American journal of health-system pharmacy*, *65*(23), 2276-2284.

Kinuu, D. (2014). Top management team psychological characteristics, institutional environment, team processes and performance of companies listed in Nairobi securities exchange. *Unpublished Ph. D. Thesis), University of Nairobi*.

Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.

Lefort, F., McMurray, D., & Tesvic, J. (2015). *Secrets to firm performance.* New York : Mckinsey & Company.

Lumpkin, G. T., & Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of Business Venturing*, *16*(5), 429-451.

Machuki, V. N. (2011). *External environment-strategy co-alignment, firm-level institutions and performance of publicly quoted companies in Kenya* (Doctoral dissertation, University of Nairobi, Kenya).

Machuki, V. N., & Aosa, E. (2011). The influence of the external environment on the performance of publicly quoted companies in Kenya. *Prime Journals, Business Administration and Management (BAM), 1*(7), 205-218.

Mkalama, R. N. (2014). *Top Management demographics, strategic decision making, macro-environment and performance of Kenyan state corporations.* Unpublished PhD. Thesis.

Mlenga, K. (2012). Assessing the Progress of Africa's Economic Integration in Light of the Establishment of the African Economic Community. *Academia.edu*.

Mold, A. (2015). Running Up That Hill? The Challenges of Industrialization in the East African Community. *Development*, *58*(4), 577-586.

Mugenda, O. M., & Mugenda, G. A. (2003). *Research methods Quantitative and Qualitative Approaches.* Nairobi: ACTS.

Munyoki, J. M. (2007). The effects of technology transfer on organizational performance: A Study of Medium and Large Manufacturing Firms in Kenya. *Unpublished PhD Thesis*.

Mutuku, C., KObonyo, P., Awino, Z. B., & Musyoka, M. (2013). Top management team diversity, involvement culture and performance of commercial banks in Kenya. *DBA Africa Management Review, 3*(2).

Newbert, S. L. (2008). Value, rareness, competitive advantage, and performance: a conceptual-level empirical investigation of the resource-based view of the firm. *Strategic management journal*, *29*(7), 745-768.

Nunnally, J. (1978). *Psychometric Theory* (2nd edition). New York: McGraw Hill.

Nunnally, S. W., & Nunnally, S. W. (1998). *Construction methods and management.* Prentice Hall.

Odundo, E. O. (2012). Environmental context, implementation of strategic plans and performance of State Corporations in Kenya. *Unpublished PhD thesis, University of Nairobi, Kenya*.

Okiro, K., Aduda, J., & Omoro, N. (2015). The effect of corporate governance and capital structure on performance of firms listed at the East African community securities exchange. *European Scientific Journal, ESJ*, *11*(7).

Ongore, V. O. (2008). The effects of ownership structure, board effectiveness and managerial discretion on performance of listed companies in Kenya. *Unpublished PhD Thesis, University of Nairobi*.

Park, S.H. & Ungson, G.R. (2001). Interfirm Rivalry and Managerial Complexity: A Conceptual Framework of Alliance Failure. *Organisation Science* 12, 1, pg. 37.

Pearce, J. A., Robinson, R. B., & Mital, A. (2010). Strategic Management: Formulation, implementation, and control (10th ed.). New Delhi: Tata McGraw-Hill.

Pearce, P. L., & Coghlan, A. (2008).The dynamics behind volunteer tourism. *Journeys of discovery in volunteer tourism: International case study perspectives*, 130-143.

Punch, K. F. (2003). *Survey research: The basics*. Sage.

Racher, F. E., & Robinson, S. (2003). Are phenomenology and post positivism strange bedfellows?. *Western Journal of Nursing Research*, *25*(5), 464-481.

Ravitch, S. M., & Riggan, M. (2012). *Reason and rigor: How conceptual frameworks guide research.* Thousand Oaks, Calif.: Sage Publications.

Razali, N. M., & Wah, Y. B. (2011). Power comparisons of shapiro-wilk, kolmogorov-smirnov, lilliefors and anderson-darling tests. *Journal of statistical modeling and analytics*, *2*(1), 21-33.

Robson, M.J., Katsikeas, C. S., & Bello, D. C. (2008). Drivers and performance outcomes of trust in international strategic alliances: The role of organizational complexity. *Organization Science*, 19(4), 647-665.

Saebi & Dong, (2008)- Saebi, T., & Dong, Q. (2008). Strategic motivations for Sino-Western alliances: a comparative analysis of Chinese and Western alliance formation drivers.

Saunders, M. N. (2011). *Research methods for business students, 5/e*. Pearson Education India.

Saunders, M. N., & Bezzina, F. (2015). Reflections on conceptions of research methodology among management academics. *European management journal*, *33*(5), 297-304.

Saunders, M., & Lewis, P. (2016). In Thornhill Adrian. *Research methods for business students*, *7*.

Saunders, S. C. (2007). *Reliability, life testing and the prediction of service lives: for engineers and scientists*. Springer Science & Business Media.

Schoemaker, P. J., & Krupp, S. (2015). The power of asking pivotal questions. *MIT Sloan Management Review*, *56*(2), 39.

Sekaran U. & Bougie R. (2013). *Research Methods for Business: A Skills-Building Approach.* John Wiley & Sons Ltd, (6th ed.).

Sekeran, U. (2003). *Research methods for business.* Hoboken.

Smart, C., & Vertinsky, I. (1984). Strategy and the environment: A study of corporate responses to crises. *Strategic management journal*, *5*(3), 199-213.

Stahl, H. M. (2005). Tariff liberalisation impacts of the EAC Customs Union in perspective. *Trade Law Centre for Southern Africa (TRALAC) Working Paper*, (4).

Thompson Jr, A. A., & Strickland III, A. J. (1998). Strategic management: Concepts and cases.

Timothy, D. J., & Teye, V. B. (2008). Regional alliances and cross-border tourism in Africa: Border implications and the Economic Community of West African States. *Tourism Review International*, *12*(3-4), 203-214.

Ting, H. F., Wang, H. B., & Wang, D. S. (2012). The moderating role of environmental dynamism on the influence of innovation strategy and firm performance. *International Journal of Innovation, Management and Technology*, *3*(5), 517.

Von Bertalanffy, L. U. D. W. I. G., & Bickis, I. (1956). Identification of cytoplasmic basophilia (ribonucleic acid) by fluorescence microscopy. *Journal of Histochemistry & Cytochemistry*, *4*(5), 481-493.

Waweru, N. (2011). M., Munyoki, E., & Uliana, E.(2008). The effects of behavioral factors in investment decision making: a survey of institutional investors operating at the Nairobi Stock Exchange. *International journal of business and emerging markets*, *1*(1), 24-41.

Were, A. (2016). Manufacturing in Kenya: features, challenges and opportunities. *A scoping exercise*, 11-22.

Yüksel, I. (2012). Developing a multi-criteria decision making model for PESTEL analysis. *International Journal of Business and Management*, *7*(24), 52.

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

Volberda, H. W., Morgan, R. E., Reinmoeller, P., Hitt, M. A., Ireland, R. D., & Hoskisson, R. E. (2011). *Strategic management: Competitiveness and globalization*. South-Western College Publishing.