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THE JOINT EFFECT OF STRATEGIC ALLIANCE, REGIONAL INTEGRATION AND MACRO ENVIRONMENT ON THE PERFORMANCE OF KENYAN MANUFACTURING FIRMS IN THE EAST AFRICAN COMMUNITY MARKET

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Abstract:

The study sought to establish the joint effect of strategic alliance, regional integration and macro environment on the performance of Kenyan manufacturing firms in the East African Community market. The study was anchored on resource dependency theory, Resource Based Theory, theory of integration and the 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 analysed using descriptive and inferential statistics. Hypotheses were tested using both simple and multivariate regression analysis while Baron and Kenny (1986) model of stepwise regression analysis were used to test for moderating effects. The findings indicated that there is a statistically significant positive joint influence of strategic alliance, regional integration and macro environment on the performance of Kenyan manufacturing firms in the East African Community market and the joint effect was greater than the influence of each variable individually. 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. The results of this study will serve as guide to document that the level and type of alliances used in the Kenyan manufacturing firms in the EAC market will determine their performance.

Keywords: Strategic Alliances, Regional Integration, Macro Environment, Firm Performance, Kenya Manufacturing Firms in East African Community Market

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Introduction

Firms at all levels are embarking on partnership alliances and forming a vital part of today's business environment (Pyka & Windrum, 2003). Lendrum (1995) tends to differentiate strategic partnering from strategic alliances. According to Lendrum strategic partnering is about fundamentally altering the way we manage our relationships with partners (1995). A partnership alliance is about picking long-term winners' (Lendrum, 1995) whereas strategic alliances are relationships between two or more suppliers servicing the same customer/customer base or different customer .

Moves towards regional integration have become more and more active, with countries seeking to strengthen their ties with other countries (Choi & Caporaso, 2002). The inclination to unite was an initial response of Africa's founding fathers to the balkanization process of the colonial era and the desire to overcome colonially imposed artificial boundaries. In recent times however, the need for sustainable economic development in the face of the harsh realities of globalization and trade liberalization has been the motive force driving regional integration in Africa. The regional economic communities are expected to serve their member States with the implementation of the regional integration agenda, where the concept of good faith and the resultant observance of treaty obligations are the basis on which member States must make regional integration decisions as well as ensuring their performance and implementation (Hettne, 1999). It is important to note that regional integration can be an important milestone in overcoming small economic blocs through resource mobilization, combining markets and enabling organizations in the member countries take advantage of bigger markets for economies of scale and enhanced competitive advantage (Mwasha, 2011).

The macro environment entails 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). Further, it can be understood from the perspective of the open system approach that one should attach great importance to the idea that since firms exist in a dynamic environment their resources are strongly affected by the forces of their environment (Lumpkin & Dess, 2001). The role of the macro environment on organizational performance has been the epicenter of strategic research. The external environment has an influence on firm performance (Machuki & Aosa, 2011) because it provides both facilitating and inhibiting influences on firm performance. The choice of strategic partnership therefore may be subject to macro environment, which eventually influences firm performance. As the environment change therefore, firm's survival entirely depends on devising appropriate responses to unforeseen discontinuities (Ansoff & McDonell, 1990). Indeed, it has been argued that the existing coping mechanism of a firm can impact its perceptions of the environment. The turbulence that come along with the external environment is critical to the relationship between the choices of strategic alliances and firm performance. This is because organizations are environmental serving and dependent (Ansoff & McDonnell, 1990).

Firm performance is a critical if not the most significant paradigm in strategic management research Combs Crook & Shook, 2005) and remains a recurrent issue of great interest to both academic scholars and practicing managers (Venkatraman & Ramanujam, 1986). The special focus on performance differentiates strategic management from other fields. The core of

strategic management research is to increase understanding about determinants of firm performance and explain how managers can create superior performance (Andersén, 2011). Financial performance in the study is measured by Return on Assets (ROA), Return on Equity (ROE), dividend yield.

The revived EAC came into existence on 7th July 2000 following the signing of the treaty for its reestablishment in November 1999 by all the three original member nations; republic of Kenya, United Republic of Tanzania and the republic of Uganda (EAC, 2002; Dapontas, 2013). This was followed by the admission of Rwanda and Burundi in 2007 and the admission of South Sudan in 2016 (Kiprota, 2012). This region, including South Sudan, is a home to 172 million people covering an area of 2.47 million square kilometers and having a combined GDP at current market price of $172 billion (Hansohm, 2013; Gaalya, Edward & Eria, 2017).

Manufacturing sector in Kenya currently employs over 240,000 people representing 13% of the total employment (Ndung'u, Thugge, & Otieno, 2011). The sector's contribution to gross domestic product (GDP) has increased from 10% in 2013 to 14.4% in 2016, which stands at more than 62 billion dollars (Ngui, Chege, & Kimuyu, 2016). The overall goal is to increase to at least 10% per annum (KAM, 2016). Kenya Government has been implementing policies with a view to improving the economic and social environment of the country (KAM, 2016). Manufacturing firms face upheavals and challenges occasioned by activities such as globalization, free trade agreements as a result of regional integration which have direct bearing on performance of these firms (Odeny,2018). In spite of the promising regional market, many manufacturing firms have not yet fully tapped into this market with only less than 10% having penetrated to EAC regional bloc (Otieno, Bwisa, & Kihoro, 2012) . Others have shied away while others have exited from this huge market, hence, this coupled with the fact that studies that have distinctively linked strategic alliances, regional integration, macro-environment and firm performance are limited has motivated this study.

The four variables in isolation as opposed to uniquely integrated conceptual framework, scanty studies have investigated moderating effects of regional integration and macro-environment on the relationship between strategic alliances and firm performance. For instance Mlenga (2012) investigated regional integration and firm performance; external environment and firm performance (Machuki & Aosa, 2011); political goodwill can adversely influence regional integration (Maruping, 2005); regional integration and organizational performance (Hajipour, Talari & Shahin, 2011); strategic choice, macro environment and performance (Neill & Rose, 2006); regional alliances, cross-border tourism and performance of tourism firms (Timothy & Teye, 2008); regional integration, strategic alliances and performance of firms in along EAC regional integration (McIntyre, 2005); innovation strategy, environmental dynamism and firm performance (Zhang & Chan, 2005). Lastly, there were some methodological gaps that this study sought to address: Musyoki and Mugema (2016) pointed out the need to use least squares method on interval data as in the case by Motelle and Biekpe, (2015) which relied on data ranging from 1984 to 2010. Zhang & Chan (2005) used a study sample that was drawn from a database with frequency analysis, mean scores and inferential statistics for quantitative data without using any qualitative data.

Research works have not put emphasis on how strategic alliances and performance are jointly influenced by macro environment and regional integration in the context of EAC but limited to only relationship between two or three variables. For instance, Machuki and Aosa (2011) found that the external environment significantly influenced the performance of publicly quoted companies in Kenya. Grandori (1997) contend that there is need for gainful strategic alliances across organizations in regional integration setups for performance to be realized. Baum & Usher (2000) also refer to strategic alliance along regional integration as a tactical coalition that requires a trustworthy associate to demeanor a developing partnership, where organizational resources and competencies are pooled as well as developing new ones to enhance anticipated performance. Bertalanffy and Bickis (1956) pointed out that relationship between strategic alliances and performance needs to consider environments as moderators of that relationship. The growing importance of strategic alliances as a critical resource in regional integration has encouraged organizations to pay greater attention to the macro environmental factors such as political, economic, social, ecological and legal circumstances that may affect changes in the competitive forces on organization (Fahey & Narayanan, 1986). Consequently, in an effort to address the above gaps the study sought to answer the question; what is the influence of strategic alliances, regional integration and macro environment on performance of Kenyan Manufacturing firms in the East African Community Market? The objective of this study was to establish the joint effect of strategic alliance, regional integration and macro environment on the performance of Kenyan manufacturing firms in the East African Community market.

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

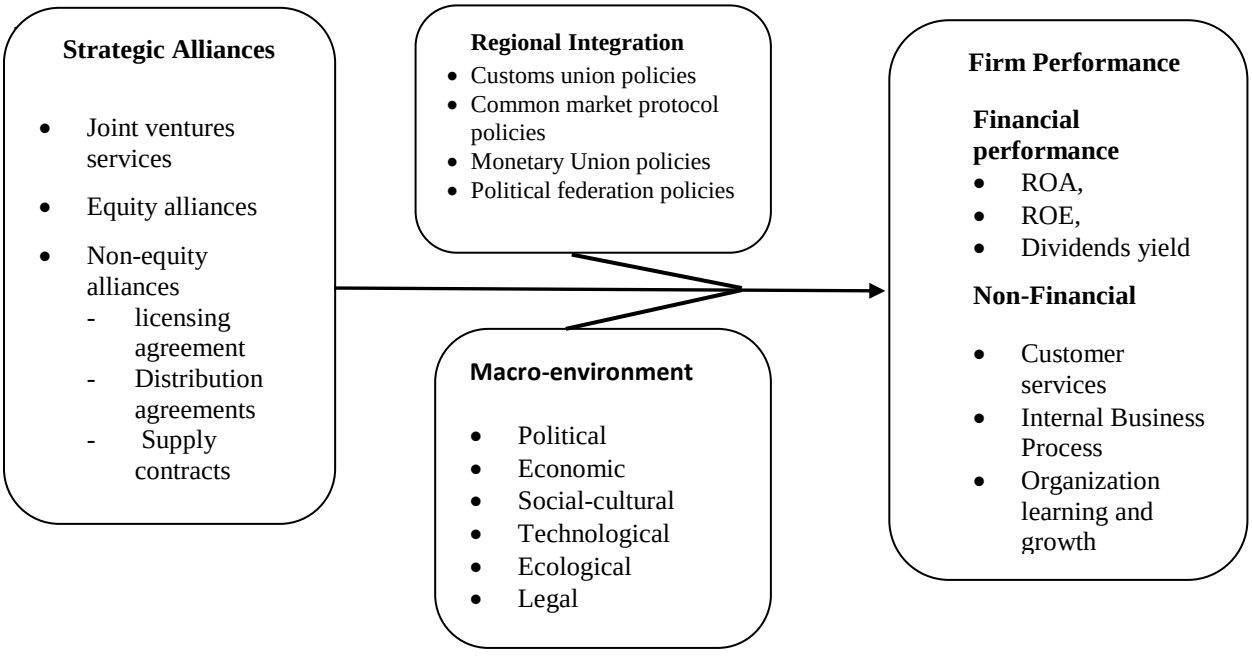

Figure 1: Conceptual Model

The following hypotheses were tested:

H_1: There is a significant joint influence of strategic alliance, regional integration and macro environment on the performance of Kenyan manufacturing firms in the East African Community market.

Sub hypotheses:

H_{1a}: There is a significant joint influence of strategic alliance, regional integration and macro environment on the financial performance of Kenyan manufacturing firms in the East African Community market.; and

H_{1b}: There is a significant joint influence of strategic alliance, regional integration and macro environment on the non-financial performance of Kenyan manufacturing firms in the East African Community market.

Methodology

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). 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. 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). 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 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).

Primary data was collected by using semi-structured questionnaires. 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. 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).

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. This research study adopted the Cronbach's alpha coefficient test for internal consistency. Nunnally (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.

Results

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 1.

Table 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.

The results of the reliability tests carried out in Table 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 ($\alpha = 0.880$). Regional integration had a reliability coefficient score of 0.832. 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 2: Reliability Tests

Variable	Variable constructs/Indicators	No. of Items	Cronbach's alpha value	Decision
"Strategic alliances	• Joint ventures services • Equity alliances • Non-equity alliances - licensing agreement - Distribution agreements - Supply contracts	17	0.714	**Reliable**
Regional integration	• Customs union policies • Common market protocol • Monetary Union policies • Political goodwill and union	30	0.832	**Reliable**
Macro-environment	• Political • Economic • Social-cultural • Technological • Ecological • Legal	30	0.924	**Reliable**
Firm performance	• Financial • Customer services" • Internal Business Process • Organization learning and growth	28	0.880	**Reliable**

Source: Research Data, 2019

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 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
Regional Integration	.102	131	.002	.914	131	.100
Macro Environment	.081	131	.036	.935	131	.400
Firm Performance	.086	131	.019	.978	131	.232
a. Lilliefors Significance Correction						

Source: Research Data, 2019

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 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. 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).

Table 4: Test for Multicollinearity

Coefficients[a]			
Model		Collinearity Statistics	
		Tolerance	VIF
	Strategic Alliances	.954	1.049
	Regional Integration	.825	1.212
	Macro Environment	.828	1.208
a. Dependent Variable: Firm Performance			

Source: Research Data, 2019

As shown in Table 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.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 α= 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 5: Tests for Test of Homogeneity of Variances

Study Variables	Levene Statistic	df1	df2	Sig.
Strategic Alliances	2.495	20	103	.071
Regional Integration	3.833	20	103	.120
Macro Environment	1.772	20	103	.134

Source: Research Data, 2019

From the results in Table 5, P-values of Levene's test for homogeneity of variances were greater than 0.05. The test therefore was not significant at α= 0.05 confirming homogeneity.

The study objective was to determine the joint effect of strategic alliances, regional integration and macro environment on performance and arising from this objective, the following hypothesis was formulated and tested:

H_{A1}: *There is a significant joint influence of strategic alliance, regional integration and macro environment on the performance of Kenyan manufacturing firms in the East African Community market.*

Table 6: Model Goodness of fit for Strategic Alliances, Regional Integration, Macro Environment and Firm Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.837[a]	.700	.681	.53284

a. Predictors: (Constant), Legal, Joint services and cooperation, Technological, Social-cultural, Political, Non-Equity Alliances, Equity Alliances, Economic

macro environment on the performance of Kenyan manufacturing firms in the East African Community market.

As presented in Table 6 above, 68.1% of variations in overall firm performance are explained by variations in strategic alliance, regional integration and macro environment (Adjusted R^2=0.681).

Table 7 presents F (1,130) = 35.644, P<0.05 inferring that joint influence of strategic alliance, regional integration and

Table 7: Model Significance for Strategic Alliance, Regional Integration, Macro Environment and overall firm performance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	80.960	8	10.120	35.644	.000[b]
	Residual	34.638	122	.284		
	Total	115.597	130			

a. Dependent Variable: lnFirm Performance (Final Index)

b. Predictors: (Constant), Legal, Joint services and cooperation, Technological, Social-cultural, Political, Non-Equity Alliances, Equity Alliances, Economic

As presented in Table 7, there is a statistically significant positive joint influence of strategic alliance, regional integration and macro environment on the performance of Kenyan manufacturing firms in the East African Community market.

Table 8: Model Regression Coefficients of Strategic Alliance, Regional Integration, Macro Environment and Overall Firm Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.769	.690		8.362	.000
	Joint services and cooperation	.707	.120	.349	5.874	.000
	Equity Alliances	1.276	.147	.565	8.705	.000
	Non-Equity Alliances	.070	.150	.027	.471	.639
	Political	-.284	.139	-.139	-2.044	.043
	Economic	-.196	.148	-.091	-1.319	.190
	Social-cultural	.056	.120	.027	.466	.642
	Technological	-.285	.101	-.150	-2.822	.006
	Legal	-.431	.096	-.235	-4.481	.000

a. Dependent Variable: lnFirm Performance (Final Index)

As presented in Table 8, using standardized coefficients the joint service contracts have a positive effect on firm financial performance (β= 0.349, t=5. 874, P>0.00), Equity alliances has a strong positive effect on firm performance (β= 0. 565, t=8.705, P>0.05), None equity alliances have a strong positive effect on firm performance. (β=0.066, t= -1.001., P>0.319), Political Environment has a weak negative effect on firm performance. (β= -0.139, t=2. 044, P>0.05), Economic

Environment has a weak negative effect on firm performance. (β=0.066, t= -1.001., P>0.319), Social-cultural Environment has a weak positive effect on firm performance. (β= 0.027, t=.466, P>0.05), Technological Environment has a weak negative effect on firm performance. (β= -0.150, t=0.150, P>0.05), Legal Environment alliances has a weak negative effect on firm performance. (β=0.066, t= -1.001., P>0.319). The relationships derived are statistically significant.

The regression equation derived was thus as follows:

Y_4 = 0.349 JSC + 0.565EA + 0.027NEA + -0.139PE - 0.091EE + 0.027SCE - 0.150TE - 0.235LE

Where:

JSC = Joint services and cooperation

EA = Equity Alliances

NEA = Non-Equity Alliances

PE = Political Environment

EE = Economic Environment

SCE = Social-cultural Environment

TE = Technological Environment

LE = Legal Environment

The regression model suggests that firm performance index is constant at 5.769 and a unit increase in Joint services and cooperation increases firm performance by 0.349 units, a unit increase in Equity Alliances increases firm performance by 0.565 units, a unit increase in Non-Equity Alliances increases firm performance by 0.541 units, a unit increase in Political Environment decreases firm performance by 0.139 units, a unit increase in Economic Environment decreases firm performance by 0.091 units, a unit increase in Social-cultural Environment increases firm performance by 0.027 units, a unit increase in Technological Environment decreases firm performance by 0.150 units, a unit increase in Legal Environment decreases firm performance by 0.235 units. The findings therefore confirms hypothesis $_{A1}$ that there a statistically significant positive joint influence of strategic alliance, regional integration and macro environment on the performance of Kenyan manufacturing firms in the East African Community market. H_{A1} is therefore supported.

The first sub hypothesis tested through multiple regression analysis is:

H_{A1a}: There is a significant joint influence of strategic alliance, regional integration and macro environment on the financial performance of Kenyan manufacturing firms in the East African Community market

Table 9: Model Goodness of Fit for Strategic Alliances, Regional Integration, Macro Environment and Firm Financial Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.563[a]	.317	.272	1.75989

a. Predictors: (Constant), Legal, Joint services and cooperation, Technological, Social-cultural, Political, Non-Equity Alliances, Equity Alliances, Economic

As presented in Table 9 above, 27.1% of variations in firm financial performance are explained by variations in strategic alliance, regional integration and macro environment (Adjusted R^2=0.272). Table 73 presents F (1,130) = 7.078, P<0.05 inferring that joint influence of strategic

alliance, regional integration and macro environment on the financial performance of Kenyan manufacturing firms in the East African Community market.

Table 10: Model Significance for Strategic Alliance, Regional Integration, Macro Environment and Overall Firm Performance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	175.386	8	21.923	7.078	.000[b]
	Residual	377.859	122	3.097		
	Total	553.245	130			

a. Dependent Variable: LnFinancial Performance (Final Index)

b. Predictors: (Constant), Legal, Joint services and cooperation, Technological, Social-cultural, Political, Non-Equity Alliances, Equity Alliances, Economic

As presented in Table 10, there is a statistically significant positive joint influence of strategic alliance, regional integration and macro environment on the financial performance of Kenyan manufacturing firms in the East African Community market.

Table 11: Model Regression Coefficients of Strategic Alliance, Regional Integration, Macro environment and Firm Financial Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.573	2.279		5.518	.000
	Joint services and cooperation	1.214	.398	.274	3.051	.003
	Equity Alliances	1.788	.484	.362	3.694	.000
	Non-Equity Alliances	-.402	.494	-.070	-.814	.417
	Political	.027	.459	.006	.058	.954
	Economic	-.956	.490	-.203	-1.950	.053
	Social-cultural	.184	.397	.040	.465	.643
	Technological	-.243	.333	-.059	-.729	.468
	Legal	-.048	.318	-.012	-.153	.879

a. Dependent Variable: LnFinancial Performance (Final Index)

As presented in Table 11, using standardized coefficients the joint service contracts have a positive effect on firm financial performance (β= 0.274, t=3.051, P>0.003), Equity alliances has a strong positive effect on firm performance (β= 0. 362, t=3.694, P>0.00), None equity alliances has a strong negative effect on firm performance. (β=0.070, t= -0.814., P>0.417), Political Environment has a

weak negative effect on firm performance. (β= 0.006, t=-0.058, P>0.05), Economic Environment has a weak negative effect on firm performance. (β=0.203, t= -1.950., P>0.053), Social-cultural Environment has a weak positive effect on firm performance. (β= 0.040, t=.465, P>0.643), Technological Environment has a weak negative effect on firm performance. (β= -0.059, t=0.729, P>0.05), Legal Environment alliances has a weak negative effect on firm performance. (β=0.012, t= -1.153., P>0.879). The relationships derived are statistically significant.

The regression equation derived was thus as follows:

Y = 0.274 JSC + 0.362EA – 0.070 NEA + 0.006PE - 0.203EE + 0.040SCE - 0.059TE - 0.012LE

Where:

JSC = Joint services and cooperation

EA = Equity Alliances

NEA = Non-Equity Alliances

PE = Political Environment

EE = Economic Environment

SCE = Social-cultural Environment

TE = Technological Environment

LE = Legal Environment

H_{A1b}: There is a significant joint influence of strategic alliance, regional integration and macro environment on the non-financial performance of Kenyan manufacturing firms in the East African Community market.

Table 12: Model Goodness of Fit for Joint Influence of Strategic Alliance, Regional Integration and Macro Environment on the Non-Financial Performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.301[a]	.090	.031	1.61482

a. Predictors: (Constant), Legal, Joint services and cooperation, Technological, Social-cultural, Political, Non-Equity Alliances, Equity Alliances, Economic

In Table 12 and 5.9, for model one, 3.1% of variations in Non-Financial performance is explained by variations in the strategic alliance, regional integration and macro environment (Adjusted R^2=0.3.1, F (1,130) = 1.514, P<0.05). This shows that the model is statistically significant in explaining the relationships.

Table 13: Model Overall Significance for Joint Influence of Strategic Alliance, Regional Integration and Macro Environment on the Non-Financial Performance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.583	8	3.948	1.514	.159[b]
	Residual	318.134	122	2.608		
	Total	349.717	130			

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

b. Predictors: (Constant), Legal, Joint services and cooperation, Technological, Social-cultural, Political, Non-Equity Alliances, Equity Alliances, Economic

Table 14: Model Regression Coefficients of Strategic Alliance, Regional Integration, Macro Environment and Non-Financial Financial Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.797	2.091		3.251	.001
	Joint services and cooperation	.505	.365	.143	1.384	.169
	Equity Alliances	.513	.444	.131	1.155	.250
	Non-Equity Alliances	-.471	.454	-.104	-1.038	.301
	Political	.312	.421	.088	.742	.460
	Economic	-.761	.450	-.204	-1.693	.093
	Social-cultural	.129	.364	.035	.354	.724
	Technological	.041	.306	.012	.134	.893
	Legal	.383	.291	.120	1.314	.191

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

The regression equation derived was thus as follows:

Y = 0.143JSC + 0.131EA – 0.104 NEA + 0.088PE - 0.204EE + 0.035SCE +0.012TE +0.120LE

Where:

JSC = Joint services and cooperation

EA = Equity Alliances

NEA = Non-Equity Alliances

PE = Political Environment

EE = Economic Environment

SCE = Social-cultural Environment

TE = Technological Environment

LE = Legal Environment

The study sought to determine the joint effect of strategic alliances, regional integration and macro environment on performance. A corresponding hypothesis, H_4 stating that the joint effect of strategic alliances, regional integration and macro environment on performance of Kenyan manufacturing firms in the EAC market was formulated and tested. The study found that the results of the joint effect were statistically significant implying that the variables jointly influence overall firm performance ($H_{1)}$ where 68.1% of variations in overall firm performance are explained by variations in strategic alliance, regional integration and macro environment (Adjusted R^2=0.681). The results for sub hypothesis (1a) confirms that 27.1% of variations in firm financial performance are explained by variations in strategic alliance, regional integration and macro environment (Adjusted R^2=0.272) as well as to sub hypothesis (1b) which

confirms that 3.1% of variations in Non-Financial performance is explained by variations in the strategic alliance, regional integration and macro environment (Adjusted R^2=0.3.1, F (1,130) = 1.514, P<0.05). This shows that the two sub hypothesis models are statistically significant in explaining the joint effect of strategic alliance, regional integration and macro environment on financial and non-financial performance respectively, which are the key purpose of any firm in measuring their performance aspect. Strategic alliances, regional integration and macro environment enable manufacturing firms in the EAC market in their pursuit of performance outcomes.

Bertalanffy and Bickis (1956) pointed out that relationship between strategic alliances and performance needs to consider environments and integration initiatives in relation to firm performance in addition to strategic alliances. From the above three scenarios concerning the relationship strategic alliance, regional integration and macro environment on firm performance; Baum & Usher (2000) jointly refer to strategic alliance along regional integration as a tactical coalition that requires a trustworthy associate to demeanor a developing partnership, where organizational resources and competencies are pooled as well as developing new ones to enhance anticipated performance. Machuki and Aosa (2011) found that the external environment significantly influenced the performance of publicly quoted companies in Kenya. Grandori (1997) contend that there is need for gainful strategic alliances across organizations in regional integration setups for performance to be realized. It can therefore be depicted to mean that for performance of Kenyan manufacturing firms in the EAC market to be realized.

In conclusion, Strategic alliances cannot only foster the desire performance without considering regional integration element and scan macro environment in a way that fits the performance objectives. The research hypothesis on the joint effect of strategic alliances, regional integration and macro environment and Kenyan manufacturing firms in the EAC market was confirmed. The study has attempted to establish the synergistic and joint effect of the study variables that can create competitive advantage. This conclusion is consistent with findings from previous research and lends credence to the idea that firm performance is not only determined by firm strategic decisions but regional integration and macro environment factors come into play.

Conclusion and recommendations

The objective of the study was to establish the joint effect of strategic alliances, regional integration and macro environment on performance of Kenyan manufacturing firms in the EAC market. This objective hypothesized that the joint relationships between strategic alliances, regional integration, macro environment and firm performance were significant. Stepwise regression analyses were conducted to test the relationships significance. The results reveal that regional integration and macro environment jointly have statistically significant influences on performance. These results meant that there was a considerable change in the variation in performance with the addition of regional integration and macro environment to the regression model. As explained by Baum & Usher (2000), strategic alliance along regional integration is a tactical coalition that requires a trustworthy associate to demeanor a developing partnership, where organizational resources and competencies are pooled as well as developing new ones to enhance anticipated performance. Machuki and Aosa (2011) found that the external environment significantly influenced the performance of publicly quoted companies in Kenya. Grandori

(1997) contend that there is need for gainful strategic alliances across organizations in regional integration setups for performance to be realized. It can therefore be inferred from the foregoing findings that for performance of Kenyan manufacturing firms in the EAC market to be realized, strategic alliances must be coined with a broader view on existing environmental circumstances and in consideration of the type of the strategic partnerships.Strategic alliances will foster desirable performance if they put into consideration the elements of regional integration and the initiators scan the macro environment in a way that fits their broad strategic objectives. Manifestation of strategic alliances dimensions had varied and mixed results on firm performance.

Kenyan manufacturing firms have previously lacked best strategic management practices and hence with proper understanding of the regional dynamics, the study helps to bridge the gap. The sector is very crucial to Kenya's economic development and contribution to the gross domestic product. It will guide policy makers to develop strategies, promotion of assistance schemes and education programs appropriate to the firms operating in this sector in order to enhance their performance and efficiency. It supports the need for partner states to encourage complementarity approach policies as opposed to competition approach which may adversely affect existence of the EAC as a regional economic bloc.The results of the study show that regional integration has significant influence on the strategic alliances that a firm can adopt. The findings that regional integration and macro environment positively influence firm performance suggest what areas firms need to focus on. The need for manufacturing firms to strengthen their technologies, marketing and above all human capital capacities across the borders is critical. It will create a clear road map and competitive advantage differences by managers on which regional integration and macro environment dimensions to be pursued. The results of this study will assist policy makers to ensure that Kenyan manufacturing firms in the EAC market give clear focus to dynamic regional and global environmental dynamics and timely adjustments to ensure wrong information does not affect policy drafting and policy decisions. These results will serve as guide to document that the level and type of alliances used in the Kenyan manufacturing firms in the EAC market will determine their performance.

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