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Analysis of Macro-Environmental Influence on Performance of Plastic Tank Manufacturers in Kenya: A Case of Nairobi County

[1*] Samson Omwoyo Memba, [2*]Dr. Robert Omundi Obuba

1*Post Graduate Student, Department of Business Administration

Mount Kenya University

Lecturer, Department of Business Administration

ORCID No: 0009-0004-2815-8237

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Abstract

Purpose: This study sought to investigate the influence of the macro environment on the performance plastic tank manufacturing firms in Nairobi's industrial area.

Methodology: Respondents were four department managers who were the finance manager, the marketing manager, the production manager, and the supply chain manager who responded to each performance parameter respectively. The sample was a census sample considering there were only 18 plastic tank manufactures in this area. This yielded 72 respondents. Data was collected using semi-structured questionnaires administered to the various respondents. Once collected, the questionnaires were edited for completeness before being entered into the Statistical Package for Social Sciences Computer Package for Analysis. Both descriptive and inferential statistics were obtained and used. Expected outcomes were the different weights that each environmental factor exerted on each performance parameter

Findings: Energy cost had a negative and significant relationship with the performance of performance of plastic tanks manufacturing companies in Kenya. Exchange rates, interest rates and income distribution had a negative but insignificant relationship whereas transport costs had an insignificant positive relationship. Ethics was also found to have a positive and significant relationship with performance of plastics tanks manufacturing firms in Kenya. Purchasing power had an insignificant relationship with firm performance. Result further established that new production technologies, new distribution technologies and new marketing technologies was positively and significantly related to performance of plastics tanks manufacturing firms in Keny.:This study concluded that stakeholders in the matters of security should come with measures to ensure that is favourable for functioning of manufacturing companies in Kenya. The study concluded that stakeholders should keenly study the economic environment such exchange rates, interest rates, energy and transports costs to ensure they come counter measures to mitigate their influence on the performance of the companies.

Unique Contributions to Theory, Policy and Practice: The study recommended that manufacturing sectors stakeholders should work closely with the ministry of internal security and other relevant authority to provide a secure environment which will enhance their performance. The stakeholders in the manufacturing sector should also come up with measures that will enable them to mitigate the effects of macro-economic factors. The study finally recommended that manufacturing companies in Kenya must adopt latest technology in production, marketing and distribution of their products if they are to perform highly

Keywords: *Politics; the Economy; Culture; and Technology*

1.1 Introduction

Organizational performance management involves the systematic definition of an organization's mission, strategy, and objectives, which are made measurable through critical success factors and key performance indicators (Waal, 2007). It encompasses achieving both financial and non-financial targets, developing skills and competencies, and improving customer care and process quality. Performance management functions include strategy formulation, development of performance measurement instruments, application of analytical techniques to interpret measures, and the development of instruments to encourage appropriate organizational responses to performance information (Smith & Goddard, 2002).

Organizational performance can be measured in various ways. One measure is the percentage of manufacturing output over time in comparison to other countries, such as the dominant position of the US, China, and Japan as world manufacturers (TI, 2012). For example, China significantly increased its manufacturing output from 3% in 1990 to 18.9% in 2010, while South Africa's manufacturing output decreased from 0.61% in 1990 to 0.5% in 2010 (Jwali, 2012).

Another measure of organizational performance is its contribution to GDP. In South Africa, the manufacturing sector's contribution to GDP decreased from 19% in 1993 to 17% in 2010 (Jwali, 2012). Similarly, in Kenya, the sector's contribution declined from 9.6% in 2011 to 9.2% in 2012 (KAM, 2012). Profitability is commonly used as a measure of performance for commercial corporations, but it is considered unsatisfactory as the sole indicator of success (Kaplan & Norton, 2016).

The environment significantly influences organizational performance. Donaldson (2001) identifies three catalysts for effective performance: employees' mindsets, the business environment, and the nature of employees' activities. The business environment, as explained by Porter (1995), is dynamic and turbulent, which limits an organization's ability to achieve objectives. The environment includes internal and external factors, such as suppliers, competitors, technology improvements, laws, government activities, and social and economic trends (Waal, 2007; Porter, 1985, 1990).

The external environment is divided into the micro environment, which directly affects the operations of a firm, and the macro environment, which indirectly influences the business and is uncontrollable (Thompson, 2003; Capron, 2009). The micro environment consists of forces like creditors, suppliers, competitors, and customers. The macro environment comprises economic, technological, sociocultural, political-legal, international, and ecological forces (Waal, 2007; Porter, 1985, 1990; Thompson, 2003).

The political environment plays a crucial role in business performance as governments' interventions affect business practices and the legal environment. For example, changes in government perceptions can lead to punitive laws and impact industries negatively (Walker, 2004). Political instabilities and terrorism threats in certain regions can hinder transport and investment

attractiveness (UNCTAD, 2011). Security threats from insurgent groups can also deter investments (Kenya Economic Update, 2013).

The economy, including trade barriers, income distribution, interest rates, exchange rates, and the cost of doing business, affects organizations' performance (Schmidt, 2005). For instance, import restrictions can have unintended consequences, affecting price and quality (Schmidt, 2005). High interest rates can increase costs and make outputs less competitive in foreign markets (NCC, 2015). Energy shortages and infrastructure challenges can also hinder manufacturing activity and transportation (ADB, 2011; Kandie, 2009).

Culture plays a significant role in business environments, shaping the behavior and practices of organizations. Cultural dimensions, such as customs, lifestyles, values, and social norms, influence resource acquisition, production, and functioning within society (Hofstede, 1980; Trompenaars & Hampden-Turner, 1997). For example, cultural differences in work values, like collective effort versus individualism, and attitudes toward authority can impact management practices and employee behaviors (Manrai & Manrai, A. (2011).

Technological advancements present both threats and opportunities for organizations. New technologies can disrupt established products, industries, and business models, as seen in the rise of online shopping and its impact on traditional retail (Brynjolfsson & McAfee, 2014). Technological advancements such as robotics and automation can also lead to job losses but can create new jobs and improve productivity (Brynjolfsson & McAfee, 2014).

To summarize, organizational performance management involves defining objectives and measuring performance using critical success factors and key performance indicators. The business environment, including political, economic, cultural, and technological factors, significantly influences performance. The macro environment, which consists of uncontrollable external forces, has a direct and indirect impact on organizational success. Understanding and effectively responding to these environmental influences are crucial for achieving and sustaining organizational performance.

There have been significant changes in the Kenyan macro environment over the past 10 years that have seen the collapse, closure or withdrawal of some manufacturing companies from the region. Studies done by Dulo (2006), Omondi (2006), Swaleh (2007), Economic Survey (2012, 2013, & 2014), KAM (2012), UNIDO (2012), & Nyabiage (2014) reveal that the poor performance is attributed to high costs of production, competition from cheap imports, high costs of credit, drought, lack of accountability, political instability, poor regulatory quality, and corruption.

1.2 Statement of the Problem

The Kenyan manufacturing performance has been registering receding performance over the last few years. In 2011, KAM (2012) observes that the sector registered a growth rate of 3.1 percent which was slower from the 3.5 % registered in 2010. According to Economic Survey (2013), the

sector's contribution to GDP declined from 9.6 % in 2011 to 9.2 per cent in 2012. Citing harsh investment environment over this period, several manufacturing firms have downscaled, restructured, or altogether shut down their Kenyan operations and relocated to low-cost manufacturing destinations such as Egypt, China and India. In 2014 Cadbury Kenya closed. In May 2014, Tata Chemicals Magadi announced that it was scaling down operations by closing its main factory citing high energy costs. Later Eveready East Africa the biggest dry-cell battery maker in the region, shut its Nakuru factory. Others such as; Reckitt & Benkiser, Procter & Gamble, Bridgestone, Colgate Palmolive, Johnson & Johnson and Unilever have all relocated or opted to serve the local market through importing. (Nyabiage 2014).

Despite various attempts to promote the sector's performance such as increasing workforce, increased credit for investment, removal of price controls, foreign exchange controls, and introduction of investment incentives, Economic Survey (2012, 2013, and 2014); KAM (2012); Awino (2007) and Kandie (2009) observe that many sectors such as food industries, paper, textiles, leather, and plastics have been registering declines. Initial studies by Dulo (2006), Omondi (2006), Swaleh (2007), Nyabiage (2014), Economic Survey (2012,2013 and 2014); UNIDO (2012), Awino (2007), and Kandie (2009) point at the macro environment being unconducive and therefore responsible for the poor performance

1.3 Objectives of the Study

1. To Assess the effect of political influence on firm performance in Kenya
2. To establish the effect of economic influence on firm performance in Kenya
3. To analyze the effect of cultural influence on firm performance in Kenya
4. To Determine the effect of technological influence on firm performance in Kenya

2.0 LITERATURE REVIEW

2.1 Theoretical Literature

The Environment and Performance

Donaldson (2001) observes that three catalysts influence effective organizational performance. These include: Employees' mindset, the business environment, and the nature of activity employees are engagement in. Hambrick (1983) narrows down by directly stating that the performance of a competitive strategy can be clarified by linking it to a set of environmental pre-conditions.

Porter (1995) goes further and observes that the business environment in which firms operate is very dynamic and turbulent such that it forces firms to expand across borders in search for markets and resources. The overall objective for the firm is not only increasing its market share but also profitably serving that market. The ability of a firm to achieve these objectives is greatly curtailed by the instability resulting from an evolving business environment. Hambrick (1983) narrows

down by directly stating that the performance of a business objective can be clarified by linking it to a set of environmental pre-conditions

2.2 Empirical Literature

Kenya Economic Update (2013), notes that to maintain high growth rates, Kenya needs to continue investing more in infrastructure and human capital, improve the business and regulatory environment, and diversify exports.

Dulo (2006), and Billow (2004), Observe that to remedy the situation of counterfeit, smuggled, and cheap imports that are driving local manufacturing units out of the business, there is need to maintain macroeconomic stability and to develop a business environment that promotes local industries. Economic Survey (2013), notes that while the JSC has initiated several reforms in the Judiciary, more needs to be done: First, there should be training and staff development to address the shortages of judicial staff, including judges, magistrates, and court administrators. Second, to be devolve services up to the county level by building more court stations. Third, the Judiciary should explore the option of alternative dispute resolution to reduce case backlogs.

Njuguna (2012) makes the following policy recommendations to address the sector's poor performance: First, there is need for policy incentives for value addition and diversification, for example, targeting manufacture of electronics and simple machinery. Second, to borrow the example of Malaysia, where manufacturing of electronics and biotechnology qualify for 100% tax exemption and investment tax allowance of up to 100% for five years. Third, there should be a policy on incentives to promote inter-firm linkages and FDIs to enhance progression of manufacturers into competitive firms. For example, Singapore pursued policies to encourage FDI inflows in higher value added areas such as production of chemicals and electronics through tax and non-tax incentives, and establishment of the Singapore Science Park to provide targeted research and development services to small and medium enterprises. Such incentives act as a catalyst for industrial transformation.

2.3 Theoretical Framework

Geroski's Environment and Firm Survival Hypothesis

One of Geroski's stylized theories is the environment and firm survival hypothesis (Geroski, 1995). He postulates that a firm's capacity to survive through severe environmental conditions is positively related to the firm's age. Firms start small and face a high probability of failure. Start-up firms are usually smaller than incumbents, making them more vulnerable to changes in the environment. As time goes by, firms go through a legitimating process by learning about their abilities and pitfalls to avoid. This learning process may take several years, leading to expect low performance for a cohort in the first few years of life than for the older cohorts also operating in the same market at the same period. In line with this, firm performance is expected to stabilize with firm age. Firms need time to establish, invest appropriately, develop specific knowledge and

routines, and build trust and relationships in the industry. Until firms pass through these stages they are less likely to cope with severe environmental challenges than older and larger companies. Thus, Geroski hypothesized that:

Hypothesis 1a: The capacity of a firm to withstand environmental challenges increases with age.

2.4 Conceptual Framework

Independent variables in the macro environment influence firm performance which is the dependent variable. Firm performance is the dependent variable in this study whereas the environmental factors are the independent variables. Environmental factors will be the: politics, economy, culture, and technology. Financial performance; marketing performance; internal business process; and learning and growth will be the predictable dependent variables. Firm age factor may intervenes the influence of the environment on performance

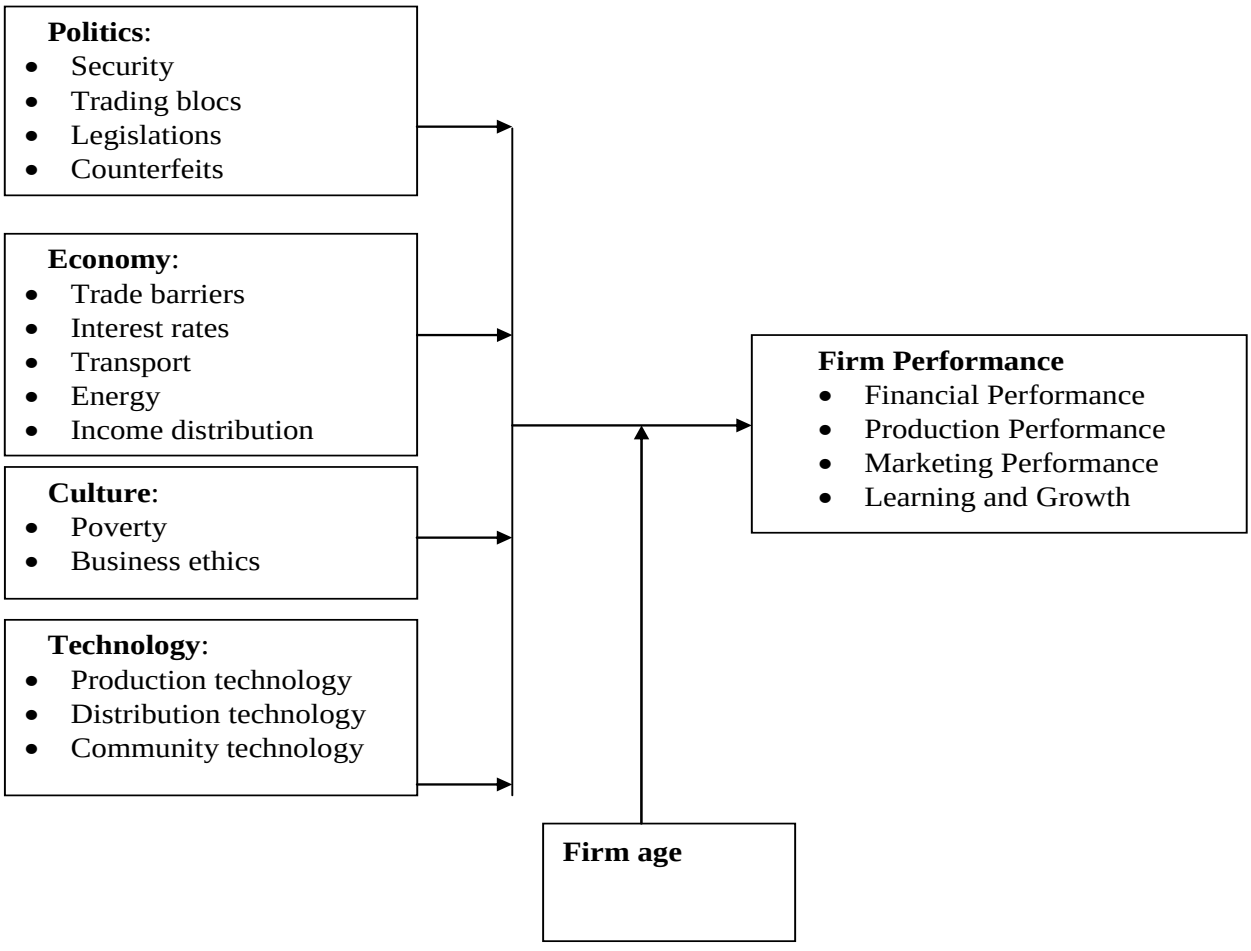

Figure 1: Conceptual Framework **Source:** Researcher 2016

2.5 Research Gap

Several studies have been done on what ails the performance of manufacturing firms in Kenya. Dulo (2006) carried out a survey on the effect of market liberalization on the performance of firms in the sugar industry. Omondi (2006) sought to find out the competitive strategies adopted by airlines in Kenya in view of increasing global jet fuel prices. Swaleh (2007) carried out a case study on the underlying causes for the decline of the pyrethrum industry in Kenya. All these studies and initial reports such as Economic Survey (2012, 2013, and 2014), KAM (2012), and UNIDO (2012), point at the macro environment as the biggest influencer of manufacturing performance in Kenya. The most affected sectors include textiles; leather and related products; plastics; and food industries. While the studies are focused on the influence of some environmental factor or another on the performance of these industries, none has touched on the influenced of the macro environment on the performance of plastic tank manufacturers.

3.0 METHODOLOGY

Respondents were four department managers who were the finance manager, the marketing manager, the production manager, and the supply chain manager who responded to each performance parameter respectively. The sample was a census sample considering there were only 18 plastic tank manufactures in this area. This yielded 72 respondents. Data was collected using semi-structured questionnaires administered to the various respondents. Once collected, the questionnaires were edited for completeness before being entered into the Statistical Package for Social Sciences Computer Package for Analysis. Both descriptive and inferential statistics were obtained and used. Expected outcomes were the different weights that each environmental factor exerted on each performance parameterThe below regression model was used;

To establish the statistical significance of the independent variables on the dependent variable regression analysis was employed. The relationship between environmental influence and firm performance was illustrated by the following equation.

$Y=\alpha+\beta 1X1+ \beta 2X2+ \beta 3X3+ \beta 4X4+$

Where:

Y= Firm performance

= constant (intercept)

= slope (gradient) showing the rate at which the dependent variable is changing for each unit change in the independent variable.

X1= Political influence

X2 = Economic influence

X3= Cultural influence

X4 = Technology influence

= Error term

4. 0 RESULTS FINDINGS

4.1 Introduction

This chapter also contains some discussions on the results obtained.

4.2 Scale Reliability Results

The Cronbach's alpha was calculated in a bid to measure the reliability of the questionnaire. This was done by subjecting the questionnaire to ten respondents. All the variables were reliable since their Cronbach's alpha was above 0.7 which was used as a cut-off of reliability for the study. Therefore, all items measuring the variable were maintained in the final data collection instruments used to collect data.

Table 1: Reliability Test Results

Variable	No of Items	Respondents	α=Alpha	Comment
Political environment	4	10	0.701	Reliable
Economic environment	5	10	0.783	Reliable
Culture	2	10	0.82	Reliable
Technology	3	10	0.812	Reliable
Firm Performance	4	10	0.834	Reliable

4.3 Demographics Analysis

This section contains results on demographic analysis which include; gender of the respondents, position of the respondents and the age of the firm.

4.3.1 Gender

The findings of this study show that majority of the respondents that participated in this study were male (72%) while female were 28% as shown in Figure 1 below.

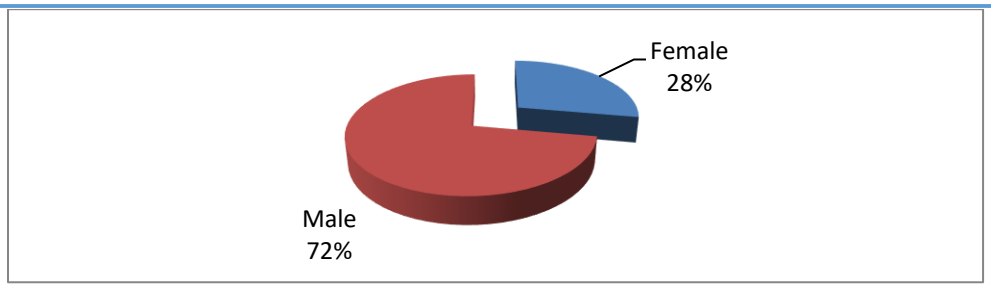

Figure 1 Gender

4.3.2 Position of the Respondents

The study sought to find the position the respondents occupied in their respective companies. The findings showed that sales and marketing manager were 27%, production manager 26%, supply chain manager 25% and finally Finance Manager 22%.

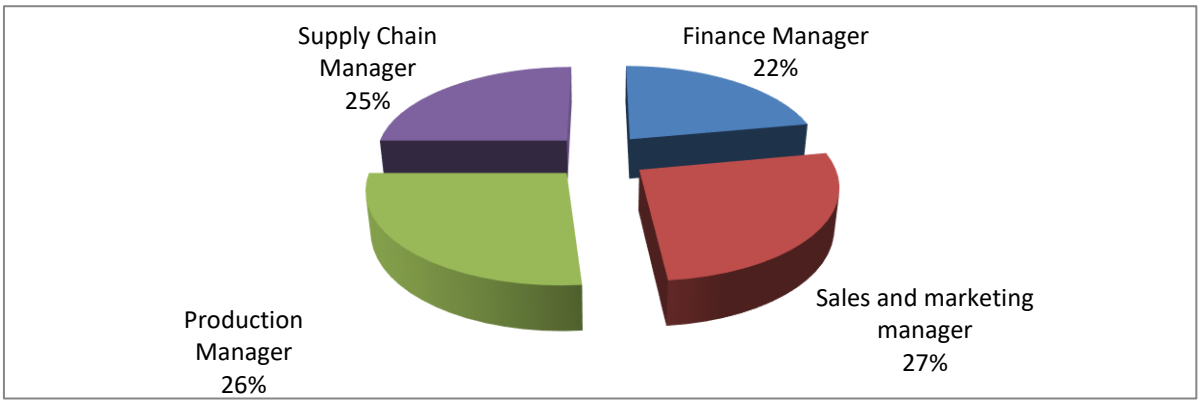

Figure 4.2 Position of the Respondents

4.3.3 Number of Years Firm Has Operated in Kenya

The study further aimed to find out how long had the plastic tank manufacturing companies operated in Kenya. The findings indicated that majority (40%) of the companies have been in Kenya for over 20 years, followed by those between 11-20 years and finally less than 10 years were the least at 26%.

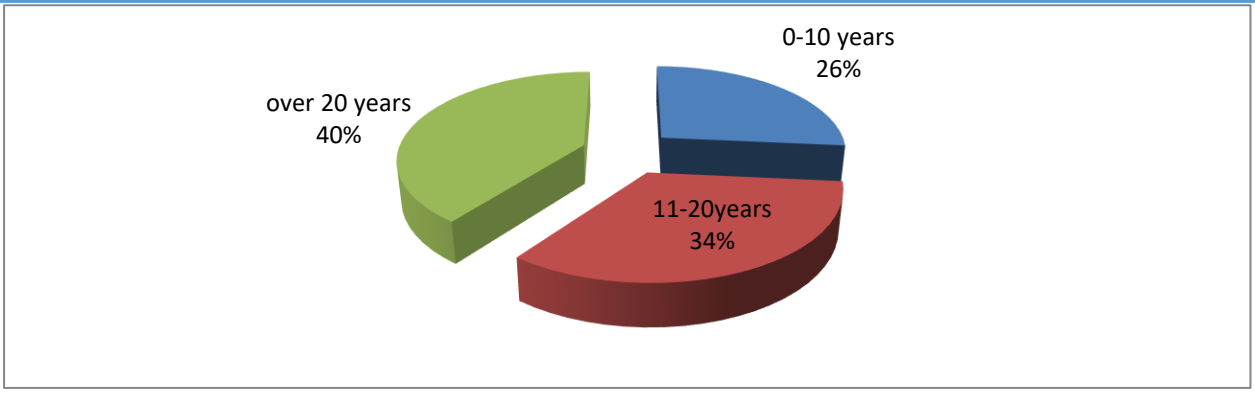

Figure 4.3 Number of Years Firm Has Operated in Kenya

4.4 Political Environment

The first objective of the study was to investigate the influence of political environment on the performance of plastic tank manufacturing companies in Kenya. Under political environment the study focused on insecurity situations, trading blocs, legislation and counterfeits.

4.4.1 Descriptive Results for Political Environment

The study sought to find how insecurity situations, trading blocs, legislation and counterfeits influenced the firm performance. On the scale of highly positive to highly negative, the respondents were to indicate their opinion on how these affected the firm performance of plastic tank manufacturing companies in Kenya. The descriptive results indicate that 51.50% of the respondents indicated that the effect of insecurity situations on firm performance was slightly negative with 48.50% indicating highly negative. The respondents further indicated that the effect of trading blocs was positive whereas legislation and counterfeits were indicated to have negative effects on the firm performance.

Table 2: Descriptive Results for Political Environment

	Highly Positive	Slightly Positive	No Impact	Slightly Negative	Highly Negative	Mean	Std Dev
insecurity situation	0.00%	0.00%	0.00%	51.50%	48.50%	4	1
Trading blocs (COMESA, EAC, AGOA)	26.50%	22.10%	26.50%	25.00%	0.00%	3	1
Legislation	11.80%	17.60%	19.10%	32.40%	19.10%	3	1

Counterfeits	0.00%	0.00%	32.40%	35.30%	32.40%	4	1

4.4.2 Correlation Result for Political Environment

The study further conducted a correlation analysis to ascertain the association between political environmental factors and firm performance. The findings revealed that insecurity situations, legislation and counterfeits had strong negative and significant association with the firm performance whereas trading blocs had a positive association with firm performance.

Table 3: Correlation Result for Political Environment

		Security/insecurity situation	Trading blocs	Legislation	Counterfeits
Security/insecurity situation	Pearson Correlation	1	-0.098	0.133	0.073
	Sig. (2-tailed)		0.425	0.279	0.556
	N	68	68	68	68
Trading blocs (COMESA, EAC, AGOA)	Pearson Correlation	-0.098	1	-0.197	-0.01
	Sig. (2-tailed)	0.425		0.108	0.935
	N	68	68	68	68
Legislation	Pearson Correlation	0.133	-0.197	1	0.082
	Sig. (2-tailed)	0.279	0.108		0.508
	N	68	68	68	68
Counterfeits	Pearson Correlation	0.073	-0.01	0.082	1
	Sig. (2-tailed)	0.556	0.935	0.508	
	N	68	68	68	68

Firm Performance	Pearson Correlation	-.414**	.419**	-.351**	-.354**
	Sig. (2-tailed)	0.000	0.000	0.003	0.003
	N	68	68	68	68

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

4.4.3 Regression Result for Political Environment

To find out the nature of the relationship between political environment factors and firm performance, the study employed regression analysis. The findings of the model indicate that insecurity situations, trading blocs, legislation and counterfeits accounted for 46.5% of the variation in firm performance. The ANOVA results further indicate that the model was statistically significant hence the independent variables were good predictors of the dependent variable.

Table 4: Model Summary for Political Environment Factors

Model	1
R	.682a
R Square	0.465
Adjusted R Square	0.431
Std. Error of the Estimate	0.56885
F-Statistics	13.667 (p=0.000)

Table 5: Regression Coefficients for Political Environment Factors

	B	Std. Error	Beta	t	Sig.
(Constant)	4.614	0.454		10.164	0
Security/insecurity situation	-0.206	0.059	-0.33	-3.526	0.001
Trading blocs (COMESA, EAC, AGOA)	0.234	0.065	0.341	3.62	0.001
Legislation	-0.125	0.055	-0.215	-2.264	0.027

Counterfeits	-0.262	0.079	-0.309	-3.339	0.001

a Dependent Variable: Mean Firm Performance

The relationship was computed using the formula:

Firm Performance = 4.614+ -0.206 (*insecurity situations*) + 0.234(*trading blocs*) + -0.125 (*legislation*) + -0.262 (*counterfeits*) + ε

The findings of the regression analysis revealed that insecurity situation and negative and significant (β*=-0.206, p=0.001*) relationship with the performance of plastic tanks manufacturing companies in Kenya. The result also showed that trading blocs had positive and significant relationship (β*=0.234, p=0.001*) with firm performance. Similarly, the results revealed that legislation (β*=-0.125, p=0.027*) and counterfeits (β*=-0.262, p=0.001*) had a negative and significant relationship with the performance of performance of plastic tanks manufacturing companies in Kenya.

4.5 Economic Environment

The study also sought to establish the relationship between economic environment and the performance of performance of plastic tanks manufacturing companies in Kenya. The study assessed the effect of exchange rates, interest rates, energy costs, transport costs and income distribution on the performance of performance of plastic tanks manufacturing companies in Kenya.

4.5.1 Descriptive Results for Economic Environment

The descriptive results in the table below showed that majority of the respondents indicated that exchange rates, interest rates, energy costs, transport costs and income distribution had either slightly negative or highly negative effects on the performance of performance of plastic tanks manufacturing companies in Kenya. The mean of 4 and small standard deviation reinforced the result that majority of the respondents indicated that these factors have a slightly negative effect on the performance.

Table 6: Descriptive Results for Economic Environment

	Highly Positive	Slightly Positive	No Impact	Slightly Negative	Highly Negative	Mean	Std Dev
Exchange rates	0.0%	0.0%	41.2%	27.9%	30.9%	4	0.85
Interest rates	0.0%	0.0%	27.9%	33.8%	38.2%	4	0.81

Energy costs	0.0%	0.0%	39.7%	27.9%	32.4%	4	0.85
Transport costs	0.0%	0.0%	33.8%	39.7%	26.5%	4	0.78
Income distribution	0.0%	0.0%	29.4%	35.3%	35.3%	4	0.81

4.5.2 Correlation Result for Economic Environment

The study went further to conduct a correlation test to establish the strength of association between exchange rates, interest rates, energy costs, transport costs and income distribution and the performance of performance of plastic tanks manufacturing companies in Kenya. The result revealed that exchange rates, interest rates and energy costs had strong and significant association with firm performance. Transport costs and income distribution had weak association with the firm performance.

Table 7: Correlation Result for Economic Environment

		Exchange rates	Interest rates	Energy costs	Transport costs	Income distribution
Exchange rates	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	68				
Interest rates	Pearson Correlation	.498**	1			
	Sig. (2-tailed)	0				
	N	68	68			
Energy costs	Pearson Correlation	.369**	.647**	1		
	Sig. (2-tailed)	0.002	0			
	N	68	68	68		

Transport costs	Pearson Correlation	0.146	0.138	0.124	1	
	Sig. (2-tailed)	0.236	0.263	0.312		
	N	68	68	68	68	
Income distribution	Pearson Correlation	-0.033	-0.088	-0.035	-0.017	1
	Sig. (2-tailed)	0.787	0.477	0.777	0.892	
	N	68	68	68	68	68
Firm Performance	Pearson Correlation	-.406**	-.483**	-.508**	-0.027	0.01
	Sig. (2-tailed)	0.001	0.000	0.000	0.825	0.935
	N	68	68	68	68	68

4.5.3 Regression Result for Economic Environment

A regression model was also conducted to ascertain the relationship between economic environment factor and firm performance. The model summary result indicated that economic environment factors accounted for 33.4% of the variation in the performance of plastics tank companies in Kenya. The findings further indicate that exchange rates, interest rates, energy costs, transport costs and income distribution are good predictors of firm performance.

Table 8: Model Summary for Economic Environment Factors

Model	1
R	.578a
R Square	0.334
Adjusted R Square	0.28
Std. Error of the Estimate	0.6395
F-Statistics	6.221 (p=0.000)

Table 9: Regression Coefficients for Economic Environment Factors

	B	Std. Error	t	Sig.
(Constant)	4.355	0.626	6.955	0
Exchange rates	-0.133	0.078	-1.714	0.092
Interest rates	-0.115	0.092	-1.251	0.216
Energy costs	-0.191	0.081	-2.363	0.021
Transport costs	0.066	0.102	0.644	0.522
Income distribution	-0.022	0.097	-0.221	0.825

a Dependent Variable: Mean Firm Performance

The relationship was computed using the formula:

Firm Performance = 4.355+ -0.133 (*exchange rates*) + -0.115(*interest rates*) + -0.191 (*Energy costs*) + 0.066 (*transport costs*) + -0.022(*income distribution*) + ε

From the finding in table 7 above, only energy cost 0.191 (*Energy costs*) had a negative and significant relationship 0.021with the performance of performance of plastic tanks manufacturing companies in Kenya. Exchange rates, interest rates and income distribution 0.133 (*exchange rates*) -0.115(*interest rates*) -0.191 (+ 0.066 (*transport costs*) + -0.022(*income distribution*) had a negative but insignificant relationship whereas transport costs had an insignificant positive relationship.

4.6 Culture

4.6.1 Descriptive Results for Culture

The findings show that 44.1% of the respondents indicated that purchasing power had a highly positive effects on the firm performance, while 32.4% indicated that it had slightly positive effects. None of the respondents indicated it had negative effects. Exactly 50% of the respondents indicated that ethics had slightly and highly positive effects on the firm performance as shown in table 9 below.

Table 10: Descriptive Results for Culture

	Highly Positive	Slightly Positive	No Impact	Slightly Negative	Highly Negative	Mean	Std Dev

Purchasing power	44.1%	32.4%	23.5%	0.0%	0.0%	2	0.80
Ethics	25.0%	25.0%	50.0%	0.0%	0.0%	2	0.84

4.6.2 Correlation Result for Culture

The correlation result revealed that only ethics had a strong positive and significant association with performance of plastics tanks manufacturing firms in Kenya.

Table 11: Correlation Results for Culture

		Purchasing power	Ethics
Purchasing power	Pearson Correlation	1	-0.134
	Sig. (2-tailed)		0.274
	N	68	68
Ethics	Pearson Correlation	0.134	1
	Sig. (2-tailed)	0.274	
	N	68	68
Mean Firm Performance	Pearson Correlation	0.156	.470**
	Sig. (2-tailed)	0.204	0.000
	N	68	68

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

4.6.3 Regression Result for Culture

The study employed regression analysis to ascertain the relationship between culture and firm performance of plastic tanks manufacturing companies in Kenya. The model summary results indicated that culture accounted for 22.9% of the variations in the firm performance. Further, the result indicates that the model was statistically significant.

Table 12: Model Summary for Culture

Model	1
R	.479a
R Square	0.229
Adjusted R Square	0.206
Std. Error of the Estimate	0.67188
F-Statistics	9.674 (p=0.000)

Table 13: Regression Coefficients for Culture

	B	Std. Error	T	Sig.
(Constant)	2.044	0.323	6.323	0
Purchasing power	0.089	0.103	-0.859	0.393
Ethics	0.287	0.069	4.159	0

a Dependent Variable: Mean Firm Performance

The relationship was computed using the formula:

Firm Performance = 2.044+ -0.089 (*purchasing power*) + 0.287(*Ethics*) + ε

The regression results revealed that only ethics was positively and significantly related to performance of plastics tanks manufacturing firms in Kenya. Purchasing power had an insignificant relationship with firm performance.

4.7 Technology

The final objective of this study was to investigate the relationship between technology and performance of plastics tanks manufacturing firms in Kenya. The study focused on new production technologies, new distribution technologies and new marketing technologies.

4.7.1 Descriptive Results

The descriptive results indicate that majority of the respondents rated new production technologies, new distribution technologies and new marketing technologies to have slightly and highly positive effects on the performance of plastics tanks manufacturing firms in Kenya.

Table 14: Descriptive Results for Technology

	Highly Positive	Slightly Positive	No Impact	Slightly Negative	Highly Negative	Mean	Std Dev
New production technologies	35.3%	33.8%	30.9%	0.0%	0.0%	2	1
New distribution technologies	36.8%	32.4%	30.9%	0.0%	0.0%	2	1
New marketing technologies	38.2%	27.9%	33.8%	0.0%	0.0%	2	1

4.7.2 Correlation Result for Technology

The correlation results indicate that new production technologies, new distribution technologies and new marketing technologies had a strong, positive and significant association with the performance of plastics tanks manufacturing firms in Kenya.

Table 15: Correlation Result for Technology

		New production technologies	New distribution technologies	New marketing technologies
New production technologies	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	68		
New distribution technologies	Pearson Correlation	0.193	1	
	Sig. (2-tailed)	0.115		

	N	68	68	
New marketing technologies	Pearson Correlation	.505**	.246*	1
	Sig. (2-tailed)	0	0.043	
	N	68	68	68
Mean Firm Performance	Pearson Correlation	.380**	.481**	.532**
	Sig. (2-tailed)	0.001	0.000	0.000
	N	68	68	68

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

* Correlation is significant at the 0.05 level (2-tailed).

4.7.3 Regression Result for Technology

The study employed regression analysis to ascertain the relationship between technology and firm performance of plastic tanks manufacturing companies in Kenya. The model summary results indicated that culture accounted for 42.3% of the variations in the firm performance. Further, the result indicates that the model was statistically significant

Table 16: Model Summary Technology

Model	1
R	.651a
R Square	0.423
Adjusted R Square	0.396
Std. Error of the Estimate	0.58569
F-Statistics	15.667 (p=0.000)

Table 18: Regression Coefficients of Technology

	B	Std. Error	T	Sig.
(Constant)	1.452	0.221	6.576	0.000
New production technologies	0.086	0.082	1.047	0.299
New distribution technologies	0.257	0.069	3.707	0.000
New marketing technologies	0.257	0.075	3.436	0.001

a Dependent Variable: Mean Firm Performance

The relationship was computed using the formula:

Firm Performance = 1.452+ 0.086 (*New production technologies*) + 0.257(*New distribution technologies*) + 0.257(*New marketing technologies*) + ε

The regression results revealed that new production technologies, new distribution technologies and new marketing technologies was positively and significantly related to performance of plastics tanks manufacturing firms in Kenya.

4.8 Multivariate Regression Model

The study finally conducted a multivariate regression model to establish the joint effects of political environment, economic environment, culture and technology on the performance of plastics tanks manufacturing companies in Kenya. The multivariate model revealed that joint revealed that political environment, economic environment, culture and technology account for 54.4% of the variation in the performance of plastics tanks manufacturing companies in Kenya. The model summary also indicated that political environment, economic environment, culture and technology were good predictor variables of firm performance.

Table 19: Multivariate Regression Model Summary

Model	1
R	.737a
R Square	0.544
Adjusted R Square	0.515
Std. Error of the Estimate	0.5251

F-Statistics	18.774(p=0.000)

Table 20: Multivariate Regression Coefficients

	B	Std. Error	T	Sig.
(Constant)	3.118	0.764	4.08	0.000
Political Environment	-0.175	0.122	-1.434	0.156
Economic Environment	-0.312	0.11	-2.836	0.006
Culture	0.206	0.099	2.088	0.041
Technology	0.445	0.091	4.919	0.000

a Dependent Variable: Firm Performance

Optimal model:

Firm Performance = 3.118+ -0.175 (*Political Environment*) + -0.312(*economic Environment*) + 0.206(*culture*) + 0.445(*Technology*) + ε

The multivariate regression results revealed that culture ($\beta=0.206$, $p=0.041$) and technology ($\beta=0.445$, $p=0.000$) were positively and significantly related to performance of plastics tanks manufacturing firms in Kenya. Political environment had a negative but insignificant ($\beta=-0.175$, $p=0.156$) relationship with firm performance while economic environment had a negative and significant ($\beta=-0.312$, $p=0.006$) relationship with performance of plastics tanks manufacturing firms in Kenya. The results also revealed that technology had the largest positive effects on the performance of plastics tanks manufacturing firms out of all the variables while economic environment had the second largest effects but negative on the firm performance.

5. 0 CONCLUSION AND RECOMMENDATIONS

5.1 Discussions

5.1.1 Political Environment and Firm Performance

The first objective of this study was to examine the influence of political environment on the performance of plastic tank manufacturing firms in Nairobi Kenya's industrial area. The descriptive results indicate that majority of the respondents indicated that the effect of political environment on firm performance was slightly negative The findings of correlation tests further revealed that insecurity situations, legislation and counterfeits had strong negative and significant association with the firm performance whereas trading blocs had a positive association with firm

performance. This was concurred with the findings of the regression analysis that revealed that insecurity situation and negative and significant relationship with the performance of plastic tanks manufacturing companies in Kenya. The result also showed that trading blocs had positive and significant relationship with firm performance. Similarly, the results revealed that legislation and counterfeits had a negative and significant relationship with the performance of performance of plastic tanks manufacturing companies in Kenya.

The findings of this study concur with those of Oyelaran-oyeyinka (2006) who argued that political instability hampers the development of businesses because it is often associated with the destruction of infrastructure and an increase in the cost of credit through risk premium. Similarly, Dow (2013) observed that the regulatory environment in Kenya has been hostile to investments especially FDIs. Excessive regulations have hindered entrepreneurial activity, as firms spend more time and resources complying with rules and regulations at the expense of business. Dulo (2006) also observed that the proliferation of counterfeit goods in Kenya is a significant challenge for the Kenyan manufacturers and a drain on the country's resources. Enhanced anti-counterfeit measures have the mutual benefits of protecting both manufacturers and consumers by offering more assurances of quality and protecting the intellectual property.

5.2.2 Economic Environment and Firm Performance

The second objective of this study was to examine the influence of economic environment on the performance of plastic tank manufacturing firms in Nairobi Kenya's industrial area. The study assessed the effect of exchange rates, interest rates, energy costs, transport costs and income distribution on the performance of performance of plastic tanks manufacturing companies in Kenya. The descriptive results in the table below showed that majority of the respondents indicated that exchange rates, interest rates, energy costs, transport costs and income distribution had either slightly negative or highly negative effects on the performance of performance of plastic tanks manufacturing companies in Kenya the result revealed that exchange rates, interest rates and energy costs had strong and significant association with firm performance. In regression analysis only, energy cost had a negative and significant relationship with the performance of performance of plastic tanks manufacturing companies in Kenya. Exchange rates, interest rates and income distribution had a negative but insignificant relationship whereas transport costs had an insignificant positive relationship.

The findings of this study concur with Pan and Yigang (1999) who argued that these economic factors have major impacts on how businesses operate and make decisions. On the other hand Tokarick, (2010) observes that lowering trade restrictions as a means of stimulating the economy of a country may meet with mixed results. The findings also concurs with Odhiambo (2009), who highlighted that liberalization of the manufacturing industry in Kenya through an act of parliament in 1991, there are many entrants in the market hence affecting performance of existing companies.

According to Jwali (2012) high interest rates discourage SMEs from borrowing from banks as they are a perceived burden owing to the high interest rates.

On the other hand, the findings contradict those of Kandie (2009) who observed that in Kenya, infrastructure challenges are a huge drag on manufacturing activity. The study findings are agreement with Greenspan (2006) who observed that the high prices for crude oil siphon off buying power from the U.S. as the country pays more for energy imports. Finally, the findings of this study support those of Mgangah (2010) who reported that neglect and under investment in the power sector has led to serious electricity deficits and higher energy costs in nearly all the Eastern Africa countries.

5.2.3 Cultural Environment on Firm Performance

The third objective of the study was to examine the influence of culture on the performance of plastic tank manufacturing firms in Nairobi Kenya's industrial area. The descriptive results revealed that majority of the respondents indicated that purchasing power and ethics had highly positive effects on the firm performance. The correlation result on the other hand, revealed that only ethics had a strong positive and significant association with performance of plastics tanks manufacturing firms in Kenya. Finally, the regression results revealed that only ethics was positively and significantly related to performance of plastics tanks manufacturing firms in Kenya. Purchasing power had an insignificant relationship with firm performance.

The findings of this study are consistent with Porter (1990) who argued that sociocultural dimensions consist of customs, lifestyles, and values that characterize the society in which the firm operates. They influence the ability of the firm to obtain resources, make its goods and services, and function within the society. Similarly, Awino, (2007) and Billow, (2004) pointed out that several idiosyncrasies make the management of sociocultural differences to differ widely throughout the world. For instance, the Japanese tend to put greater significance on collective effort than working as an individual. Individual recognition is not desired like it is in the US. It is viewed as contradictory to being a good team member.

5.2.4 Technological Environment and Firm Performance

The final objective of this study was to examine the influence of technology on the performance of plastic tank manufacturing firms in Nairobi Kenya's industrial area. The descriptive results indicated that majority of the respondents rated new production technologies, new distribution technologies and new marketing technologies to have slightly and highly positive effects on the performance of plastics tanks manufacturing firms in Kenya. The correlation results also indicated that new production technologies, new distribution technologies and new marketing technologies had a strong, positive and significant association with the performance of plastics tanks manufacturing firms in Kenya. Finally, regression results revealed that new production technologies, new distribution technologies and new marketing technologies was positively and significantly related to performance of plastics tanks manufacturing firms in Kenya.

The finding of this study concurs with those of David (2005), who observed that technology is another aspect of the environment that affects a firm's strategic focus. Technology results in new ways of producing goods and services, new ways of distributing goods and services, and new ways of communicating with target markets. Similarly, Woensel (2015) observed that online shopping already dominates the retail of many goods and services across the EU. Retailers are increasingly viewing the 'high-street' as more of marketing operation to simply promote their brand like the business model used by car dealerships

Dulo (2006) on his part argued that products with relatively complex or new technology are introduced while the technology is being refined, making it hard for firms to assess their market potential. Schmidt (2005) also argues that the use of robots in the US during the early 2000s increased production and efficiency but resulted in significant numbers of job losses. Finally, Jwali (2012) noted that, as in many developing countries, there can still be a tension between the traditional practices and the improvements that can be realized through technology.

5.2. Conclusion

This study established that political environment, economic environment, culture and technology were good predictor variable for performance of plastic tanks manufacturing companies in Kenya. Therefore, this study concludes that stakeholders in the matters of security should come with measures to ensure that is favorable for functioning of manufacturing companies in Kenya. This will ensure that the companies to performance highly contributing to the growth of the economy by wealth creation and job opportunities creation.

The study also concludes that stakeholders should keenly study the economic environment such exchange rates, interest rates, energy and transports costs to ensure they come counter measures to mitigate their influence on the performance of the companies. The manufacturing companies must also cultivate a good culture in their firms and finally the manufacturing sector must adopt latest technology in production, marketing and distribution of their products.

5.3 Recommendations

5.3.1 Political Environment

The study recommends that manufacturing sectors stakeholders should work closely with the ministry of internal security and other relevant authority to provide a secure environment which will enhance their performance.

5.3.2 Economic Environment

The stakeholders in the manufacturing sector should come up with measures that will enable them to mitigate the effects of macro-economic factors.

5.3.3 Cultural Environment

The study recommends that manufacturing companies in Kenya should focus on building and organisation culture that is results oriented and one which is free from corruption and other bad vices that hinders the companies from achieving set goals and targets.

5.3.4 Technological Environment

The study recommends that manufacturing companies in Kenya must adopt latest technology in production, marketing and distribution of their products if they are to perform highly.

5.5 Recommendations for Further Research

The study recommend that further study should focus on finding out the influence of political environment, economic environment, culture and technology on performance of firms in different other sectors such as transport sector or service sector.

References

Awino, O. O. (2007). Macroeconomic instability and manufacturing performance in Kenya: A cointegration approach. *The Journal of Developing Areas*, 41(2), 185-200. [doi:10.1353/jda.2007.0011]

BCG. (2010). The African competitiveness report 2010. Boston Consulting Group.

Capron, L. (2009). The multibusiness firm: Strategy, structure, and corporate governance. Oxford University Press.

Donaldson, L. (2001). The contingency theory of organizations. Sage Publications.

Dow, G. K. (2013). Foreign direct investment and economic growth in Kenya: Evidence from time series analysis. *International Journal of Economics, Commerce, and Management*, 1(4), 1-14.

Dulo, S. (2006). Counterfeit products and the challenges they pose to the Kenyan manufacturing industry. *Journal of International Business and Economics*, 4(2), 39-50.

Dulo, T. M. (2006). The impact of macro-economic instability on the performance of the manufacturing sector in Kenya. *Journal of African Economies*, 15(2), 195-226. [doi:10.1093/jae/eji026]

Economic Report. (2013). The Kenyan economy: Riding on sound macroeconomic policies. Ministry of Finance, Kenya.

Economic Survey (2012, 2013, and 2014). Nairobi, Kenya: Government of Kenya.

Economic Survey. (2012, 2013, 2014). Government of Kenya, Ministry of Planning and National Development.

Farole, T. (2011). Special economic zones in Africa: Comparing performance and learning from global experience. World Bank Publications.

Geroski, P. A. (1995). What do we know about entry?. *International Journal of Industrial Organization*, 13(4), 421-440.

Giovannetti, G. (2009). East African trade and transport facilitation audit: Trade in intermediate inputs. United Nations Economic Commission for Africa.

Hambrick, D. C. (1983). Some tests of the effectiveness and functional attributes of Miles and Snow's strategic types. *Academy of Management Journal*, 26(1), 5-26.

Jwali, B. (2012). The determinants of international competitiveness in manufacturing in South Africa. Unpublished master's thesis, University of Johannesburg, Johannesburg, South Africa.

KAM (Kenya Association of Manufacturers). (2012). Manufacturing statistics in Kenya. Kenya Association of Manufacturers.

Kandie, E. K. (2009). Macroeconomic instability and manufacturing performance in Kenya: A vector error correction model approach. *The Journal of Economic Studies*, 36(1), 73-87. [doi:10.1111/j.1467-6454.2009.00501.x]

Kaplan, R. S., & Norton, D. P. (1996). The balanced scorecard: Translating strategy into action. Harvard Business Press.

Manrai, L. A., & Manrai, A. (2011). Hofstede's cultural dimensions and tourist behaviors: A review and conceptual framework. *Journal of Economics, Finance & Administrative Science*, *16*(31), 23.

Njuguna, M. N. (2012). Policy options for enhancing the performance of the manufacturing sector in Kenya. Journal of African Economies, 21(3), 389-415. [doi:10.1093/jae/ejr035]

Nyabiage, J. M. (2014). Macroeconomic *instability and manufacturing performance in Kenya: A quantile regression approach. Journal of Economic Studies*, 41(2), 180-198. [doi:10.1111/joes.12061]

Nyabiage, J. O. (2014). Factors influencing performance of manufacturing firms in Kenya: A case study of selected manufacturing firms in Kisumu County. Unpublished master's thesis, Maseno University, Kisumu, Kenya.

Omondi, J. M. (2006). Macroeconomic instability and industrial performance in Kenya. Journal of Economic Studies, 33(2), 113-130. [doi:10.1111/j.1467-6454.2006.00287.x]

Oyelaran-Oyeyinka, B. (2006). Learning to compete in African industry: Institutions and technology in development. IDRC.

Porter, M. E. (1985). Competitive advantage: Creating and sustaining superior performance. Free Press.

Porter, M. E. (1990). The competitive advantage of nations. Harvard Business Review, 68(2), 73-93.

Porter, M. E. (1995). The competitive advantage of the inner city. Harvard Business Review, 73(3), 55-71.

Schmidt, V. A. (2005). The futures of European capitalism. Oxford University Press.

Smith, M., & Goddard, W. (2002). Performance measurement systems and the role of management accountants: An exploratory survey of UK organizations. Management Accounting Research, 13(4), 379-400.

Swaleh, R. (2007). Macroeconomic instability and manufacturing performance in Kenya: An empirical investigation. The Journal of Development Studies, 43(4), 706-729. [doi:10.1080/00220380701287364]

UNIDO (2012). Industrial development report 2012: Sustaining employment growth in a globalizing world. Vienna, Austria: United Nations Industrial Development Organization.

Waal, A. A. de (2007). The characteristics of high-performance organization. Business Strategy Series, 8(3), 179-185. [doi:10.1108/17515630710755531]