

Research Article

Macro environment moderating Effects on Strategy and PerformanceDr. Benson Mbithi¹, Prof. Willy Muturi², Prof. Charles Rambo³¹School of Business, Jomo Kenyatta University of Agriculture and Technology, Kenya²Department of Economics, Accounting & Finance, Jomo Kenyatta University of Agriculture and Technology³School of Continuing and Distance Education, University of Nairobi, Kenya***Corresponding Author:**

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Abstract: Competitive business environment organizations are facing today has prompted them to develop business strategies geared to improve performance in order to sustain competitive advantage. However choice of strategy alone cannot guarantee performance without considering the role of macro environment in that relationship. The study therefore sought to establish the moderating effect of macro environment factors on relationship between combined strategy choices and performance. Over and above the direct effect that moderating factors (macro environment factors) may have on company performance their moderating effects on the relationship between strategic choice and performance were tested. Overall, it can be concluded that the four components of company's macro environment manifest and affect strategy-performance relationship in varying degrees. The findings imply that companies are environment dependent and to manage this company-environment interface, an appropriate strategy choice is necessary. The study also presents a clear link between environment-strategy-performance such that managers of such companies should consider in enhancing company survival and growth.

Keywords: Macro environment, Strategy, Performance, Product Development Strategy, Market Development Strategy, Diversification Strategy, Corporate Social Responsibility.

INTRODUCTION

Environmental dynamics have been considered as performance determinants [1, 2] while macro environmental factors have been found to impact to a greater extent on almost all organizations [3]. Bertalanffy, L. V [4] pointed out that relationship between strategy and performance needs to consider environments as moderators of that relationship. Further it is only reasonable to project that environmental variables may play an important role in strategic choice and performance [5]. Studies depicting business environmental dynamism to have a moderating effect have suggested that environment moderates strategy and firm performance these include [6] on foreign entry strategy and performance in public SME's in USA; [5] on the moderating role of environmental dynamism on the influence of innovation strategy and firm performance; [7] on impacts of external business environment on organizational performance in food and beverage industry in Nigeria. Moderating effects of environmental factors have been used in performance models relative to domestic strategies according to Daft, R.L [8]. Dess, G.G [9] found support for the moderating effects of environment on the strategy-performance relationship.

Organization and environment therefore permeate one another both cognitively and relationally

– that is both in the minds of actors and in the process of conducting relationships between the two as asserted by Baruch, Y [3]. Dill, W. R [10] found business environment as the totality of physical and social factors taken into consideration by a firm for making decisions. Business external environmental has been referred to be a phenomena not in the control of the firm and has further been classified into macro (remote) and task environment [11]. Macro (remote) environment is comprised of political, social-cultural, economic, ecological and technological categories according [12]. These factors are further claimed to affect activities of the company in long term environment. Macro environment consists of broad environmental factors that impact to a greater extent on almost all organizations [3]. Macro environmental influence effects on organizations are categorized using PESTEL concurring with the arguments of Emery, F E *et al.* [12]. Macro environment influence the success or failure of an organizations strategies while the impact of these general factors tends to surface in the more immediate environment through changes in the competitive forces on organization [13].

Organizational Performance

Different organizations uses varying measures of performance in terms of qualitative and quantitative. Gillespie [14] used Return on Assets (ROA) as

measures of success, [15] employed Return on Sales (ROS) Jauch, LR *et al.* [16], Johnson, G *et al.* [17] and Kakazoukis, C *et al.* [18] represented performance by Return on Investment (ROI). Continuous performance is the objective of any organization. Knowing the determinants of organizational performance is important especially in the current business competitive environment. Identification of those factors is important and should be treated with keen interest with aim of improving on the performance. This study explored both quantitative and qualitative measures of performance to show the impact of strategy – environment.

Statement of the problem

The environment in which Kenyan companies operate has been marred with various types of turbulence which has been observed in macro environment factors. Continued existence of these companies necessitates that they continually consider how macro-environment impacts on their strategic behaviours. How consistent their strategic behaviours are with environmental changes is expected to have implications in their performance. Secondly, and most important, there is empirical evidence of the impact of the external/macro environment and their strategic choices. This is evidenced by studies by Cool, K *et al.* [6] on foreign mode strategy and performance where environment is the moderating variable [7] on impacts of external business environment on organizational performance in Nigeria [5] on the moderating role of environmental dynamism on the influence of innovation strategy and firm performance [19] on the external environment on the performance of the fast food industry in Islamabad and [20] on how Albanian external environment affect the construction industry. This study advances an argument that whereas companies may strive to achieve an appropriate match between their strategic choice and performance, achieving the match can be influenced by the macro-environment (Economic, political, social-cultural technological and demographic factors). The current study introduces macro-environment factors as external contextual factors and measuring their moderating effect on the relationship between strategic choices on performance.

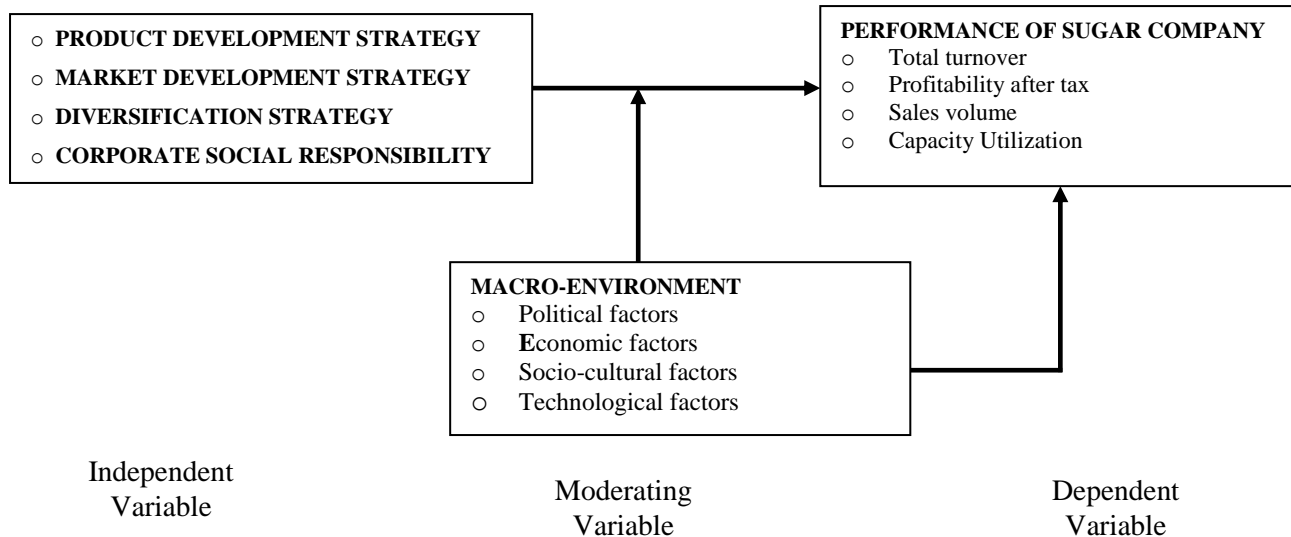
There is empirical evidence of the relationship between business macro environment and performance of companies. There however exist gaps that this study

seeks to address, like determining the degree to which macro environment impacts on performance. The study therefore addresses the effect of macro environment on the different performance measures of sugar companies in Kenya. The study was guided by the following objective; To establish how macro environment affects performance of sugar companies in Kenya. The study further seeks to answer the question; How does macro environment affect performance of sugar companies in Kenya and whether there is any moderating effect of macro-environment factors on the relationship between strategic choices on company performance? The study tested the following null hypothesis; H₀: There is no significant relationship between macro environment and performance of sugar companies in Kenya.

Theoretical Framework

An open system is a system which continuously interacts with its environment. Open System Theory (OST) was initially developed by Kumar, R [21], a biologist, but was immediately applicable across all disciplines. Perspectives of Open System Theory (OST) were further advanced from the work of Emery and Trist [22]. Open system Theory is a modern system based changed management theory designed to create healthy, innovative and resilient organizations and communities in today's fast changing and unpredictable environments. Organizations continually confront the uncertainty of new challenges and problems that they have to address in a timely, efficient, and effective manner for their survival. Therefore, organizations die or are transformed when the needs satisfied by them no longer exist or have been replaced by other needs [12]. A systems view considers an organization as a set of interacting functions that acquire inputs from the environment, process them, and then release the outputs back to the external environment [23]. Open-system models focus on events occurring external to the organization that influence changes within the organization. Sugar companies in Kenya have an open and active adaptive relationship with their external environment and therefore using concepts of Open Systems Theory (OST), the study will bring out the role that macro environment is playing in influencing choice of strategy towards achieving company goals.

The study was guided by the following conceptual framework.



Empirical review of existing literature

Management politics in Kenya's Sugar Industry towards an Effective Framework [24] examined the management practice in the industry, prevailing production arrangements and the problems associated with it, focusing on the politics that pervades the entire system. Data for this report was obtained from both secondary and primary sources. Primary sources were derived from interviews conducted among twenty farmers in Muhoroni and fifteen farmers in Chemelil sugar-cane growing areas. The study findings showed that the problems in the sugar industry are mainly due to government policies and interference, which does not favour efficient performance. This has led to management inefficiencies of the factories with the belief that the government will always bail them out of their financial difficulties. Efficient management of the sugar factories is the key to the success of the sugar industry [24].

Prompted by the continued deficit in national sugar production occasioned by the inability of the industry to consistently produce sugar at the factory rated capacities, [25] conducted an assessment of relationship between plant and equipment maintenance strategies and factory performance of the Kenya sugar firms. The researchers used survey research design with a sample of sixty respondents composed of ten respondents from Mumias, Chemelil, Muhoroni, Nzoia, South Nyanza and West Kenya Sugar Companies. Using Likert-scale weighted average in the data analysis, findings showed that management policies in the companies greatly influenced the way maintenance of plant and equipment is carried out and its effects on factory performance. The study established that robust plant and equipment maintenance strategies play a key role in the factory performance. Maintenance leadership was the most influential intervening variable to the way plant and equipment maintenance is managed [25].

Politicizing structural adjustment policies in Kenya's Sugar Industry and Effects on pro-poor development outcomes was a study investigated by Nachmias, D. A *et al.* [26]. In questioning the outcome of these policies the study examined the relevance of Kenya's political economy and the role it plays. Moderating role of environmental dynamism on the influence of innovation strategy and firm performance study was done by Chan, H. W *et al.* [5] to understand the association between innovation strategy and firm performance. The study sample was drawn from a database with frequency analysis, mean scores and inferential statistics for quantitative data. Their findings were that environmental concerns appear to have a substantial impact on innovation strategy and performance. The study was confined in high-tech industries only which could not be generalized to other sectors of the economy.

A study by Neill, S *et al.* [27] confirmed lack of consensus on the outcome of performance where the independent variable is strategic choice while macro environment is the moderating variable. [6], explored on foreign entry mode and performance, the moderating effects of environment. Data was collected from 123 publicly held manufacturing SME's in USA while moderated hierarchical regression variance was adopted in the analysis. Results indicated that firms will have a higher rate of international revenue growth using non-equity based (exporting) foreign market entry modes in growing domestic environments. The findings further supported the basic contingency theory that it is the interaction between contingent environmental variables and foreign entry mode has significant implications in predicting the rate of international growth. The study was limited in consideration of performance measurement where only revenue growth was determined excluding qualitative approaches of performance.

Belief control practices and organizational performances survey of sugar industry in Kenya study was done by Ogolla, G. A [28]. Adopting the Simons' Levers of Control framework, this study sought to establish the relationship between belief control practices and organizational performance in the sugar industry in Kenya. The study used a census survey of the 45 firms in the sugar industry value-chain in western Kenya registered by the Kenya Sugar Board as at 1st January 2008. The data was collected through self administered questionnaires sent to chief executive officers, finance managers and marketing officers of the target companies. The main finding of the study was that belief control systems are moderately prevalent in firms in the sugar industry and that belief control has a significant positive relationship with organizational performance. The findings of the study underscored the need of management to incorporate employees in the company core values and design of strategic control systems to cope with changing internal and external operating business environments [28].

Integrating the impact of resources and institutional factors, a study by Neill, S *et al.* [27] compares and contrasts the dynamic relationships between product diversification, business group affiliation and firm performance in two major economies in Asia. India and Japan were chosen as they represent different macroeconomic conditions in which firms operate. Research following [29] implicitly assumed that the diversification-performance relationship is consistent, regardless of the macroeconomic context. This study questioned this assumption by examining the relationship among firms operating in two different macroeconomic environments. Further, studies linking diversification with firm performance have been carried out mainly in relatively stable environments [27].

A study was conducted by Cooper, D.R *et al.* [7] on the impact of external business environment on organisational performance in the food and beverage industry in Nigeria. The study investigated the influence of economic and political environment on organisational performance. Instruments of data collection were questionnaires with a sample size of 150 companies. Response rate was 84% while data was analysis was done by multiple regression rate. The findings of the study reflect that external business environment has an impact on organisational performance [7]. Hence, the external business environment of Nigerian organisation impinges upon the operations of a business other than the availability of capital and the ability of the manager or businessman himself. The study also revealed that all things being equal, controlling of the external business environment can be done to some extent.

Investigation by Onipe, E. O [30] on the relationship between environmental sustainability and

the financial performance of SMEs in terms of profit development and revenue development yielded substantial findings. Using a unique dataset of 337 Dutch and Chinese firms analysed through binary logistic regression method and found a significant positive association between environmental sustainability and firm performance. The study however, showed that different indicators of environmental sustainability display a distinct relationship with the two performance measures. When firms have a policy on the re-usage of materials they perform significantly better in terms of profit development and when firms have a policy on the reduction of pollution they perform significantly better in terms of revenue development [30]. Furthermore, the study found that firms that communicate to their employees about their sustainability efforts perform better in terms of profit development.

Effects of Albanian external environment on the construction industry Studies by Kegode P [20] have proven that organizations in order to be vital, economically valuable and profitable in the market have to adapt to the external environment. The success and the failure of many companies depend on the factors which affect their activities. Without taking into account the impact of environmental factors, it is not possible to formulate a good strategy or to conduct profitable business [20]. This environment refers to the factors that are outside the influence and control of the organization. It should be an important part of the decision making process and developing process of competitive strategies. The intensive changes of business conditions are an important fact that the organization does not operate in a vacuum. It operates as an open system, located in a certain field and connected directly with the influence of factors that compose this environment. Kegode P [20] study serves to provide a picture of the external environment as a tool of refining and focusing for the industry in which each company operates.

Recommendations by Kegode P [20] regarding the activities and business operations, it is important to monitor changes occurring in the external environment, considering that these environmental factors significantly affect business performance. Despite the development of Albania as a post communist country, with a long transition period, it seemed that the current situation of these indicators are not very favorable, and this is evident from the presence of any threats in our research environment. Consequently, it is necessary to take measures in order to minimize the impact of threats and create a favorable business climate to increase profits and longevity in the market by the companies. The study which was empirical literature review limited itself in both industry and geographical scope.

RESEARCH METHODOLOGY

The target population of the research entailed eight sugar companies in Kenya. The industry is a sub-sector within the larger agriculture sector in Kenya. The population of this study comprised of both parastatal and private companies in the sugar industry in Kenya totaling to eight companies by 2014. Target population were fifteen senior managers who include heads of departments and sections whose portfolio held a crucial role in developing strategic measures in the targeted companies. At least 120 respondents were targeted to fill the questionnaire and one for interview questions. In total the study aimed at reaching all the respondents representing the eight companies.

The current research required that non-probability sampling approaches be used and in particular purposive sampling. According to Prescott, J. E [31] purposive sampling is meant for a particular purpose, where people are chosen who are relevant to the research topic and who the researcher believes can provide the best information to achieve the objectives of the study [32]. The study in its choice of respondents targeted members of senior management who bore the greatest responsibility in decision making and strategy formulation. The study used a set of questionnaires, face to face interview and secondary data. A set of questionnaires were designed to generate responses on study items covering company general characteristics, macro environment and performance dimensions developed in a pattern earlier used by Gillespie [14]. Secondary data covered resources in strategy to performance on variables such as profits, total output turnover, sales volume and capacity utilization covering a period between years 2009-2013. Study theme on macro environment and performance *sought information on effect macro environment indicators (i) political factors, (ii) economic factors, (iii) social-cultural factors, (iv) technological factors on strategy performance and whether macro environment has moderating effects between strategy/performance relationship.*

The final part of the questionnaire sought information of company performance which was collected from both primary and secondary sources since it entailed profits, sales volume, total turnover and capacity utilization. The Secondary data was collected through published information like company annual reports for the period covering 2009 – 2013. Face to face interview which aimed at collecting information at least from one respondent per company supplemented information on the questionnaires and guide questions as outlined and any other relevant information that emerged in seeking clarity on responses given. Data was analyzed using a combination of both descriptive and inferential statistics. Descriptive statistics were used because they enable the researcher to meaningfully describe distribution of scores or measurements using a few indices [33]. Data frequency distribution and cross

tabulation was used in describing and explaining the situation as it is in the companies. Descriptive statistics was further used to provide a profile of company demographics. In this respect, fundamental statistical measures (averages, frequencies, percentages) were used.

In order to test the hypotheses, regression analysis was conducted using performance as the dependent variable and strategic choice indicators as predicting variables on one hand and macro environment as both a predictor and a moderator. Regression analysis beta (β) equivalent to the Karl Pearson Correlation Coefficient (r) [34] was used to determine the effect of the independent variable and the moderating variable on the dependent variable. The hypothesis was tested at 0.05% significance level, with 95% confidence, which is acceptable in nonclinical research works and was used to establish the relationship among the study variables and to test the formulated hypotheses. The Regression model for this study takes the form:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Where Y = dependent variable (Company performance)
 β_0 = Constant or intercept which is the value of dependent variable when all the independent variables are zero.

β_1 = Regression Coefficient for each independent variable (macro environment)

ε = Stochastic or disturbance term or error term

X_1 = Independent variable indicator

The test criteria was set such that the study rejects the null hypotheses H_0 if $\beta \neq 0$, otherwise the study will fail to reject H_0 if $\beta = 0$. To test the hypotheses, mean of Company performance was correlated with mean of macro environment. The correlation(r) was calculated to determine strength of the relationship between the dependent variable and independent variable. Adjusted R_2 indicated percentage of variation in which independent variable (macro environment) explain dependent variables (performance). The t-test statistic indicated significance of variables where P-value will show significance how independent variables (macro environment) determine dependent variable (performance) eg. P-value less than alpha, assumed to be 0.05 in this case would indicate significance. Standardized coefficients assessed the contribution of each independent variable towards the prediction of the dependent, since they had been converted to the same scale to show comparison. Beta coefficients were to establish by how much a unit increase in independent variable would increase dependent variable.

RESULTS AND DISCUSSIONS

A total of 120 managers in sugar companies in both public and private were targeted and to this effect

120 questionnaires were issued. Out of these 72 usable questionnaires were received back giving a return rate of 60%. The return rate in the current study is justified by Ramaswamy, S [35] who cited Babbie (1973) and Kidder (1981) when he stated that 50% is regarded as an acceptable response rate in social research surveys. Rasheed, H. S [36] considered a response rate of at least 51% in an open study to be adequate while [37] further researched the return rates reported by 141 published studies and 175 surveys in five top management journals and found that the overall average return rate was 55.6%. Others like Rumelt, R.P [38] argued that a response rate exceeding 30% of the total sample size provides enough data that can be used to generalize characteristics while [39] advanced 40% response rate to be acceptable.

Macro Environment and Sugar Companies

Another key component of this study was the macro environment in which sugar companies operate.

Macro environment determines both opportunities and threats facing the companies and in this study it was operationalized along political, economical, socio cultural and technological factors as previous studies [7,19,40].

Political factors refer to the stability of the political environment and the attitudes of political parties or movements. This may manifest in government influence on tax policies, or government involvement in trading agreements. Political factors are inevitably entwined with **Legal factors** such as national employment laws, international trade regulations and restrictions, monopolies and mergers’ rules, and consumer protection. The respondents were asked the extent to which political factors were considered in strategic decision making in their companies and their views on subsequent impact on performance. The findings are summarized in table 1 below.

Table-1: Extent to which political factors are considered in company’s strategic decision making

Responses	Frequency (f)	Percentage (%)
Not consideration at all	8	11.1
Poorly considered	12	16.7
Considered moderately	16	22.2
Highly considered	36	50.0
Total	72	100.0

Findings from the table 1 above shows that out 72 respondents who participated in the study a half 36 (50%) indicated that political factors were highly considered, almost a quarter 16 (22.2%) indicated that they were moderately considered, 12 (16.7%) were poorly considered while 8 (11.1%) did not consider political factors at all in their company’s decision making. Given that 72.2% consider political factors in decision making implies that sugar companies consider tax policies, government involvement in trading agreements, international trade regulations and protection of consumers to have a strong bearing their performance. Political decisions have been known to impact in many vital areas of business as discovered by Kegode P [20] on how the albanian external environment affect the construction industry. Sekaran, U [40] asserted that political changes greatly affect import legislations in his study on how macro

environmental forces affect business buying behavior after a recession. The findings are supported by other studies by Mashhadi, A. H [24] whose findings showed that the problems in the sugar industry are mainly due to government polices and interference which does not favour efficient performance.

Economic factors represent the wider economy which includes economic growth rates, levels of employment and unemployment, costs of raw materials, interest rates and monetary policies, exchange rates and inflation rates. The respondents were asked to state the extent to which economic factors were considered in strategic decision making in their companies and their views on subsequent impact on performance. The findings are summarized in table 2 below.

Table-2: Extent to which economic factors are considered in company’s strategic decision

Responses	Frequency (f)	Percentage (%)
Not consideration at all	3	4.2
Poorly considered	5	6.9
Considered moderately	15	20.8
Highly considered	49	68.1
Total	72	100.0

Findings from the table 2 above shows that out 72 respondents who participated in the study a majority 49 (68.1%) stated that economic factors were highly considered, 15 (20.8%) indicated that they were

moderately considered, 5 (6.9%) were poorly considered while a minimum of 3 (4.2%) did not consider economic factors at all in their company’s decision making. This implies that 68.1% highly

considers the wider economy including economic growth rates, levels of employment and unemployment, costs of raw materials, interest rates and monetary policies, exchange rates and inflation rates to a key determinant of performance in the industry.

The findings on high influence of economic factors support the findings of Sekaran, U [40] who presented economic factors of macro environment to have a strong impact on the buying behavior. The findings also confirm studies by Sekaran, U [41] in his PESTEL analysis of the macro environment who asserted that high interest rates strongly deter investment as it costs more to borrow. Sekaran, U [40] further stated that increase in taxes which is an economic aspect on imports by government can benefit the local market with their own products. Kegode P [20] also found a significant impact on company's strategy as it affects capital cost, purchasing power of the

company and consumers of the goods and services. Thompson, J. D [42] in their study on the impact of external environment on organizational development strategy found economic factors to directly affect business organizations by interest rates, fiscal policy and price fluctuations.

Socio-cultural factors represent the culture of the society that a company operates within. They may include demographics, age distribution, population growth rates, level of education, distribution of wealth and social classes, living conditions and lifestyle. The respondents were asked the extent to which social cultural factors were considered in strategic decision making in their companies and their views on subsequent impact on performance. The findings are summarized in table 3 below.

Table-3: Extent of which cultural factors are considered in company's strategic decision

Responses	Frequency (f)	Percentage (%)
Not consideration at all	13	18.1
Poorly considered	17	23.6
Considered moderately	20	27.8
Highly considered	22	30.6
Total	72	100.0

Findings from the table 3 above shows that out 72 respondents who participated in the study 22 (30.6%) stated social cultural factors were highly considered, 20 (27.8%) indicated that they were moderately considered, 17 (23.6%) were poorly considered while 13 (18.1%) did not consider social cultural factors at all in company's decision making. Given more than half of sugar companies 58.4% considered social cultural factors in their decision making shows that Sugar companies find demographics, distribution of wealth and social classes, living conditions and lifestyle as important in determining their performance.

Sekaran, U [41] states that aging workforce tend to increase costs for firms who are committed to pension payments and demand for sheltered accommodation and medical attention. Sekaran, U [40] also found that changing buying habits are influenced

by culture through price sensitive customers. Ting, H. F [43] stated that changes in consumer lifestyles, tastes and social conditions to have a moderate influence on organizational performance and therefore decision making.

Technological factors refer to the rate of new inventions and development, changes in information and mobile technology, changes in internet and e-commerce and spending on research. There is often a tendency to associate Technological developments on digital and internet-related areas, but it should also include materials development and new methods of manufacture, distribution and logistics. The respondents were asked the extent to which technological factors were considered in strategic decision making in their companies and their views on subsequent impact on performance. The findings are summarized in table 4 below.

Table-4: Extent to which technological factors are considered in strategic decision making

Responses	Frequency (f)	Percentage (%)
No consideration at all	10	13.9
Poorly considered	17	23.6
Considered moderately	25	34.7
Highly considered	20	27.8
Total	72	100.0

From the Table 4 above results reveal that out of the 72 respondents, 25 (34.7%) stated that companies considered technological factors in decision making moderately, 20 (27.8%) indicated that they considered technological factors, 17 (23.6%) indicated that they

poorly considered while 10 (13.9%) did not consider technological factors at all. Given the findings it is clear that 62.5% considered technological factors in their decision making as key in determining performance. This could further imply that majority of sugar

companies are in a position to develop new products through innovations and improve on their quality while shortening the time period between reception of raw materials and delivery of finished products.

Earlier studies by Vijfvinkel, S *et al.* [44] show poor use of technology where they stated that lack of holistic adoption and implementation of lean technology in Mumias sugar did not impact on the factory time efficiency. Voiculet, A [45] in his study on economic governance reform in the sugar sub sector submitted that low and poor yields were responsible for poor recovery rate in the sector. He stated that adoption of technology through seed variety, soil conditions of husbandry amongst other research by KESREF has shown yields could increase by over 70% and reduce maturity period from 24 months to about 16 months of first cargo and down to 14 months for successive crops. Adoption of technology through seed variety could further increase resistance to smut disease and sucrose content yields [45].

Hypothesis (H₀): Macro environment has no significant moderating effect on the relationship between choice of strategy and company performance of sugar companies

In order to test the hypothesis, multiple regression analysis was first conducted using company

performance as the dependent variable and combined strategic choices as predicting variables prior to analyzing moderated multiple regression after inclusion of moderating variable.

Multiple Regression Analysis (Independent and Dependent Variables)

This was conducted on combined strategic choices on company performance. Regression analysis beta (β) was used to determine the effect of the independent variable on the dependent variable. The hypothesis was tested at 0.05% significance level, with 95% confidence, to establish the relationship between a combined strategic choices and performance measures. The multiple regression model takes the form below and subsequently table above shows the outcome of the analysis.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where Y = dependent variable (Company performance)

β₀ = Constant or intercept which is the value of dependent variable when all the independent variables are zero.

β_{1-n} = Regression Coefficient for each independent variable

ε = Stochastic or disturbance term or error term

X_{1-n} = Independent variable indicators

Table-5: Multiple Regression Analysis (Independent and Dependent Variables)

Predictors	β	Std. Error	t	Sig.	R ²	F value	Sig.
PDS (X ₁)	0.420	0.158	2.645	0.009	0.755	27.241	0.006
MDS (X ₂)	0.441	0.138	3.185	0.003			
DS (X ₃)	0.551	0.149	3.698	0.002			
CSR (X ₄)	0.823	0.191	4.313	0.007			

Dependent Variable: Company performance

Predictors

(X₁) - Product development strategy

(X₂) - Market development strategy

(X₃) - Diversification strategy

(X₄) - Corporate social responsibility

The results of ANOVA tests in which F-test was carried out using the Analysis of Variance (ANOVA) to determine whether there is a regression model $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$ where; X₁– product development strategy, X₂– market development strategy, X₃– diversification strategy, X₄– corporate social responsibility. Table 5 indicates the linear regression F-test results where the tabulated F_{0.05, 4, 67} = 2.45 is less than the computed F-value of 27.24, hence concludes that with 95% confidence product development strategy, market development strategy, diversification strategy and corporate social responsibility combined have explanatory power on company performance. From the Table 5 it is clear that the tested overall model constituting combined independent variables on dependent variable is statistically significant with F value at 27.241 at p = 0.006 < 0.05. This means the regression model

independent variables can predict dependent variable (company performance).

A test on the beta coefficients shows influence that each of the independent variables has on the company performance on the combined model. Unit change in product development strategy increase company performance by a rate equivalent to 4.023, while each additional unit change in market development strategy changes company performance by a factor equivalent to 4.417. It can further be inferred that unit change in diversification strategy increased company performance 5.51 while one point increase in corporate social responsibility brings a difference in company performance equivalent to 8.237. From the findings of beta coefficients imply that out of the four predictor variables, corporate social responsibility was the most contributor towards company performance (β = 8.237). Using the standard beta coefficients on the

line of best fit the regression equations was obtained as follows;

$$Y = 7.423 + 4.203X_1 + 4.417X_2 + 5.510X_3 + 8.237X_4 + \dots \text{(model)}$$

Where;

Y= company performance

X₁– Product development strategy

X₂– Market development strategy

X₃– Diversification strategy

X₄ – Corporate social responsibility

The summary results (Table above) show that there is a relationship between combined strategic choices and company performance. The results further different choices of strategy affect company performance at different levels and therefore company choice of strategy should inform the subsequent outcome. The findings provide a strong support that company strategic behavior is effective when companies exhibit some combinations at the same time rather than at different times. The findings conclude that sugar companies’ performance can be enhanced if the companies’ strategic behavior is a combination of appropriate strategic choices. For sugar companies a blend of different strategic types have varying but positive effects on various indicators of performance. The results further reveal that a combined choices of strategy on company performance offer greater effect than sum of individual separate strategies of the same variables. From Table above it is evident that the combined independent variables have a predictive power of 75.5% ($R^2 = 0.755$) confirming that combined strategies will explain variations in company performance by a great margin.

Moderated Regression Analysis

To estimate the effect of a moderator variables M(political factors), N(economic factors), P(social cultural factors), Q(technological factors), on the X₁,

X₂, X₃, X₄ - Y relationship involves a regression equation that includes Y as a criterion and X₁, X₂, X₃, X₄, M, N, P and Q as the predictors. A regression model containing the reconfiguration macro environmental factors was run to determine the relationship between combined strategic choices (independent variables) and performance. Over and above the direct effect that macro environment factors may have on company performance their moderating effect on the relationship between strategic choice and performance was tested. The change in the explanatory power (R^2) upon introduction of macro environment variables in the regression analysis of the combined strategic choice and company performance indicated its moderating effect. Further, the statistical significance of the moderating effect was indicated by F-values for company performance.

To establish the moderating effect of macro environment factors (M, N, P, Q) on relationship between independent variable (combined strategy choices) and dependent variable (performance) statistical model used for analysis was as follows:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3M + \beta_4N + \beta_5P + \beta_6Q + \epsilon \text{---eqn}$$

Where; Y= company performance

Independent variables are:

X₁– product development strategy

X₂– market development strategy,

X₃– diversification strategy

X₄– corporate social responsibility,

M – Political factors

N – Economic factors

P - Social cultural factors

Q - Technological factors

ϵ = error term

Table 6: Moderated Multiple Regression Analysis (Macro Environment factors Moderating Independent and Dependent Variables Relationship)

Predictors	β	Std. Error	t	Sig.	R^2	F value	Sig.
PDS (X ₁)	0.106	0.066	1.609	0.009	0.869	21.596	0.006
MDS (X ₂)	0.558	0.091	6.117	0.001			
DS (X ₃)	0.687	0.118	5.827	0.009			
CSR (X ₄)	0.917	0.261	3.514	0.002			
PF (M)	0.243	0.071	3.407	0.004			
EF (N)	0.236	0.100	2.367	0.004			
SCF (P)	0.513	0.067	7.598	0.000			
TF (Q)	0.316	0.074	4.247	0.003			

Dependent Variable: Company performance

Predictors

(X₁) - Product development strategy

(X₂) - Market development strategy

(X₃) - Diversification strategy

(X₄) - Corporate social responsibility

M – Political factors

N – Economic factors

P - Social cultural factors

Q - Technological factors

ϵ = error term

The table above shows moderated multiple regression model to be significant statistically with p values significant at 0.006, 0.001, 0.003, 0.001, 0.003 ($P < 0.05$) with F value ($F = 21.596$) therefore the model can reliably predict each of the independent variable. Further results of the moderated multiple regression analysis show positive contribution of each predictor variable. Change in predictive power (R^2) of combined independent variables (strategic choices) before and after inclusion of moderating factors were determined in terms of the change of % variation on how independent variables explained dependent variable. Results have indicated that macro environment factors can moderate positively the combined independent variables relationship with company performance. Change of predictive power was realized in combined strategic choices on company performance by 11.4% ($R^2 = 0.755$ before inclusion of moderator and after inclusion $R^2 = 0.869$). Out of the four moderating factors, social cultural was found to have a more contributing effect ($\beta = 0.513$) closely followed by technological factors ($\beta = 0.316$). This implies that demographic issues within the Kenyan sugar belt bear the greatest effect and therefore conclude that choice of strategy to achieve a significant performance can positively be influenced if demographic factors are equally incorporated. Further technology factors which include adoption of modern milling equipment, choice of seed variety will have an impact on company performance in addition to the right choice of strategy. The results further show statistical significance in all the moderating models with p-values 0.006, 0.001, 0.003, 0.001, 0.003 $<$ alpha value 0.05 implying that they are significantly different from zero and therefore fail to confirm null hypothesis that macro environment has no moderating effects on the relationship between choice of strategy and performance. The findings imply that sugar companies wishing to increase their performance need to engage in constant scanning macro environmental factors and align them to their choices of strategy to realize significant performance.

Previous studies present conclusions on the role played by macro environment both as a moderator and also with individual effects on performance. Wamalwa, M. S *et al.* [46] while studying on effective marketing strategy and superior performance found environmental demands to be a key moderating factor, pointing out that organizations should be able to understand diverse, interrelated and often dialectical aspects of environment and match them with effective strategy. Similarly, significant moderating effects by macro environment have found by Kegode P [20] where they concluded that “in order to be vital, economically valuable and profitable in the market, organizations have to adapt to external environment”. They further stated that without taking into account the impact of environmental forces, it is not possible to formulate a good strategy or conduct a profitable business. Sekaran,

U [40] study on the influence of macro environmental forces on the changes in buying behaviours in truck business is an additional evidence that even other business sectors are influenced by effects of macro environmental.

Other previous studies have presented diverse conclusions on individual effects of macro environmental factors. Kariuki, P. M *et al.* [19] found political factors to be insignificant while social, economical and technological were found to possess significant effects towards performance in fast food industry. The current study partially agrees with [19] study on the fact that political factors have been found to have positive and significant effects. Sekaran, U [40] finding that political and economical forces bear strong and significant impacts on business buying behaviours is supported also supported by the current study where similar finding that the two factors were both positive and significant. Further, on individual macro environment factors effects, the study supports [26] finding that political factors through politicizing structural adjustment policies in Kenya’s sugar industry present significant effects in development outcomes. Nachmias, D. A *et al.* [26] also asserts that relevance of Kenya’s political economy and the role it plays influences even economic factors through liberalization and privatization and social factors through interpersonal, kinship and ethnic ties.

Other sectors of the business economy other than manufacturing are equally supported by the findings of this study. Cooper, D.R *et al.* [7] established that economic factors of macro environment bear 93% on performance in food and beverage industry, while political factors influence upto 68% which are both significant and positive. Kariuki, P. M *et al.* [19] concluded that technological factors contributed upto 40% towards performance in a related pizza fast food industry. Both studies are confirmed by this study that influence of macro environment is both positive and significant and cuts across industries. Kegode P [20] depicted political factors to be very dynamic and steady, economical factors to have direct influence on business conditions and economic performance, social factors to have uncontrollable and demographic pressures. Such assertions are supported by the current study that political factors include overcoming institutional weaknesses and technological factors influence performance.

Neill, S *et al.* [27], assertion that macro environment has a moderating effects on diversification – performance relationship is supported by the findings of this study though they further added that moderating effect changes from munificence to scarce resulting to change of performance from negative to positive which is not within this study’s scope. The core purpose of testing the moderating influence between strategy performance relationship can be viewed in terms of

dynamic capability theory as advanced by Wanyande, P [47] which explains the capacity of an organization to purposefully create, extend or modify its resource base which refers to the choice of strategy an organization adopts to achieve its goals.

Overall, it can be concluded that the four components of company's macro environment manifest and affect strategy-performance relationship in varying degrees. The findings imply that companies are environment dependent and to manage this company-environment interface, an appropriate strategy choice is necessary. The study also presents a clear link between environment-strategy-performance such that managers of such companies should consider enhancing company survival and growth.

Summary of the findings

The findings of the overall general model constituting combined independent variables on company performance were statistically significant. This means combined independent variables in the model can predict dependent variable (company performance). From the findings it is clear that the tested overall model constituting combined independent variables on dependent variable with tabulated $F_{0.05}(4,67) = 2.45 < F \text{ computed } 27.24$ at $p = 0.006 < 0.05$. This means the regression model independent variables can predict dependent variable (company performance). A test on the beta coefficients shows influence that each of the independent variables has on the company performance on the combined model. A unit change in product development strategy increased company performance by a rate equivalent to 4.023, market development strategy changes company performance by a factor equivalent to 4.417. Further, a unit change in diversification strategy increased company performance 5.51 while a unit corporate social responsibility brings a difference in company performance equivalent to 8.237. From the findings of beta coefficients imply that out of the four predictor variables, corporate social responsibility was the most contributor towards company performance ($\beta = 8.237$).

Over and above the direct effect that moderating factors (macro environment factors) may have on company performance their moderating effects on the relationship between strategic choice and performance were tested. The change in the explanatory power (R^2) upon introduction of macro environment variables in the regression analysis of the combined strategic choice and company performance indicated its moderating effect. Statistical significance of the moderating effect was indicated by F-values for company performance where moderated multiple regression model was found to be significant statistically with p values significant at 0.006, 0.001, 0.003, 0.001, 0.003 ($P < 0.05$) with F value ($F = 21.596$) therefore the model could reliably predict the dependent variable. Further results of the moderated multiple

regression analysis show positive contribution of each predictor variable. Change in predictive power (R^2) of combined independent variables (strategic choices) before and after inclusion of moderating factors were determined in terms of the change of % variation on how independent variables explained dependent variable. Results have indicated that macro environment factors can moderate positively the combined independent variables relationship with company performance. Overall, out of the four moderating factors, social cultural was found to have a more contributing effect ($\beta = 0.513$) closely followed by technological factors ($\beta = 0.316$). Change of predictive power was realized in combined strategic choices on company performance by 11.4% ($R^2 = 0.755$ before inclusion of moderator and after inclusion $R^2 = 0.869$). The results further show statistical significance in all the moderating models with p-values 0.006, 0.001, 0.003, 0.001, 0.003 $<$ alpha value 0.05.

CONCLUSIONS

The study concluded that sugar companies wishing to increase their profitability need to engage in constant scanning macro environmental factors and align them to their choices of strategy to realize significant performance. The results further show that policies governing the sugar industry, political interference in terms of appointments of key managers in the companies and western region political affiliation. The level of in which the government in place bails out ailing companies has political implications especially in a region with prominent opposition presence.

Recommendations

Macro environment could be said to immensely contribute to the current sugar industry woes in Kenya. The interests of the sugar company's interests seem to be determined on the political, economical, social cultural or technological arena. While recommendations have previously suggested that privatization of sugar companies is the only option, legislating the necessary laws has taken a political showdown while sugar cartels have taken advantage of the stalemate. Policies to handle mismanagement of the companies seem either not to be applying or to be done selectively. Most of the companies are operating under well articulated strategic plans, however implementation has been a common challenge. The dynamism in business macro environment not only in sugar industry but also in agriculture sends signals on the adjustments necessary to be done in companies strategic plans to accommodate the changes witnessed. This study attributes in addition to other factors, poor performance to enhanced by failure to consider demographic issues such as aging workforce, population dynamics on sugar belt areas leading to less land availability for sugarcane growing, lifestyle diseases and farmers concerns. Further, outdated technology including use of old machinery, poor choice

of variety seed to be major setback on performance if not considered in context. The recommend that sugar companies wishing to increase their performance need to engage in constant scanning of macro environmental factors and align them to their choices of strategy to realize significant performance. Good will from the political class is ultimately be necessary both to correct past mismanagement in the companies while spearheading rescue measures in the already ailing industry. Further, organizations should be able to understand diverse, interrelated and often dialectical aspects of macro environment and match them with effective strategy.

Contribution to the Body of Knowledge

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