Strategic Responses and Performance of Fertilizer Manufacturing Industry in Nairobi, Kenya

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ABSTRACT

Fertilizer markets in Kenya have generally experienced stiff competition among rivals trying to create niches for their products. Government subsidized fertilizers have largely affected the performance of private fertilizer manufacturing companies in Kenya. This has pushed fertilizer importers and suppliers to adopt various strategies in order to maintain market share and ensure profitability. While 50% of the companies have successfully navigated their firms through the competitive environment, others have fallen back and recorded losses of up to Kenya Shillings 2.8 billion in revenue while some have resorted to dissolution. This study sought to explain the effect of the strategic responses of fertilizer producing companies on their performance in Kenya. The specific objectives were; to analyse the effect of cost leadership strategy on company performance in the fertilizer companies in Kenya, to assess the effect of product differentiation strategy on company performance and to investigate the effect of focus strategy on company performance in the fertilizer producing companies in Kenya. This study was based on Resource based theory and open systems theory. The study used a survey design. The opinion of the management staff of the fertilizer companies on strategic responses adopted were explored using questionnaires. The target population was 600 management staff from eight fertilizer companies in Nairobi. However, purposive sampling was used to select 15% of the population, therefore creating a list of only 92 managers. Thus, from a sampling frame of 600, a sample size of 92 was obtained while 85 of them were reached and interviewed. Data was collected using questionnaires. The questionnaires had both open and close-ended questions. The data analysis was done using Statistical Package of social sciences (SPSS) computer program version 17.0. Both the descriptive and inferential analysis was done. Descriptive analysis included the mean, median and standard deviation while inferential statistics included the correlation and regression analysis. Data was presented using graphs, pie charts and tables. The study realized that the Michael Porter’s generic strategies of competitive advantage used in the study, which includes low cost leadership strategy, differentiation strategy, and focus strategy significantly influenced the organizational performance of fertilizer companies registered in Nairobi. The variables explained 85.11% of the changes in organizational performance of the fertilizer companies. A unit increase in low cost leadership strategy adoption by the firms led to a 0.655 increase in organizational performance of the fertilizer companies, a unit increase in differentiation strategy adoption led to a 0.876 increase in performance of the enterprises while a unit increase in focus strategy transformed to a 0.945 increase in performance of the firms. The study recommended a hybrid or combination of the strategies to realize high performance among the firms.

Key Words: Strategic Responses, Organization Performance, Fertilizer Manufacturing Industry in Nairobi, Kenya
1. INTRODUCTION

Strategy refers to an organization's plan to achieve competitive advantage (Pearce and Robinson, 2007). Trogoe (2001) defined strategy as a framework within which choices about the nature and direction of an organization are made. Smith (2002) further describes strategy as a sustained pattern of resource allocation by which companies align themselves effectively to their external environment. As such, strategic response is designing a strategy, creating plans on how the strategy will be put into action, monitored and evaluated in a quest to address a change in the business environment Pearce and Robinson (2007); this way an organization places itself in a crucial position to take advantage of important environmental opportunities to minimize probability and impact of external threats while capitalizing on internal strengths for maximum profitability. According to Porter (1998), the essence of formulating a strategic response or competitive strategy is relating a company to its environment. A company’s environment entails the industries in which it competes. Strategic responses provide a leeway for firms to comfortably and easily deal with competition and take advantage of existing opportunities. The goal of formulating strategic responses is to position the firm in the industry where it can best defend itself against competition and take full advantage opportunities to turn such competition to their favour. A firm’s competitive advantage is dependent on a number of variables. Strategic response however plays a leading role in ensuring a firm has the wits to effectively compete with its peers. As Minarik (2007) explains, both strategy and operational efficiency enables an organization to gain competitive advantage but operation efficiency is easy to imitate. It is however important that strategies implemented within an organization be in line with the culture associated with the firm. The proposed strategy should not only preserve but also emphasize, and enhance the culture, in accordance with the culture supporting the proposed strategy.

Kenya’s fertilizer market was liberalized during the early 1990s when price and marketing controls, licensing arrangements and import permits and quotas were eliminated (Ariga, 2012). Since the 1990’s the overall trend in national consumption of fertilizer has followed a steady growth path, with government imports declining and the role of the private sector increasing (Ariga, 2009). The liberalization of the fertilizer market had tremendous impact on both the local and regional stage with the country emerging as the main consumer of fertilizer in the region at 16% of total consumption between the year 2002 -2007 (Hernandez, 2011). The country’s market-share in the region had drastically decreased to just 7% by the year 2012-2013, trailing the likes of Ethiopia, Nigeria and South Africa (International Fertilizer Association, 2015). This trend is largely attributed to the 2007 global economic crisis and the violence that rocked the country following the disputed 2007 general election. International Plant Nutrition Institute (IPNI) in its report on The Global Fertilizer Situation (2008), states that fertilizer is a world market commodity that is subject to demand and supply. A closer look at the Kenyan market indicates that there are over 10 importers of fertilizers in Kenya with four firms controlling 85% of the market as of the year 2008 (Mathenge, 2009). Data on number of the fertilizer importers collected in 2009 may not reflect the current situation in the market; we can assume a substantial increase in the numbers given the gradual increase in usage of fertilizer in Kenya since the 1990s (Yamano, 2010).

A report by International Fertilizer Development Centre (IFDC), 2012, stated that 70% of cultivated land is cropped by non-commercial smallholder farmers who grow for domestic use, this percentage of farmers largely depend on government-subsidized fertilizers as they lack the financial means. These farmers mainly cultivate maize, which accounts for roughly 40% of fertilizer use in the country (Ariga, 2012). Commercial farmers make the largest consumers of fertilizer products (60%) in Kenya (Ariga, 2012). Market forces; threat of new entrants, bargaining power of buyer and suppliers, threat of substitute services and rivalry...
among existing firms are some of the hurdles these companies have to overcome in this extremely competitive industry in order to achieve their goals and improve their performance.

2. PROBLEM STATEMENT

There has been an automatic increase in demand for food due to an increase in population. Loss of soil fertility and low soil nutrients has turned out to be a major threat to food production and as such, application of fertilizers in crop production has become a necessity. The post 2007 period, which was marked by uncertainty, led to disruption of farm activities. Farmer groups and activists lobbied for subsidized inputs to raise production and counter the anticipated hunger in 2009. The government reacted by importing fertilizers in 2008 and selling it for 40 percent subsidy. This has largely affected the performance of private fertilizer importers and suppliers in Kenya. Government led interventions mean that the already saturated market is growing even smaller for private firms. The industry is still trying to recover from conditions created by government intervention and the companies are at the heart of it, trying to grow their market share and establish themselves as major players in the industry. In addition, rising gas prices in Europe have caused European ammonia producers to close a number of ammonia plants and instead purchase ammonia on the world market (Arovuori, 2009).

A good number of fertilizer importers and suppliers have resorted to cost leadership, differentiation and focus strategies to maintain market share and ensure profitability in a subsidy-laden market. While a good number of companies have successfully navigated their firms through the competitive environment, others have fell back and recorded huge losses while some have resorted to dissolution. Previous research has not been conclusive in bringing out the impacts of these strategies (Cost leadership, differentiation and focus) have had on the performance of fertilizer companies in Kenya. Onkoba (2014) studied the effect of strategic responses on performance of paint manufacturing industries in Kenya. Kamomoe (2014) did a study on the effect of strategic responses on insurance companies in Kenya. Kinyanjui (2013) studied the response strategies adopted by Kenol kobil to changes in the business environment in Kenya. Due to the contextual differences, the strategic responses adopted by other organizations may not be assumed to be similar to those adopted by fertilizer companies in Kenya. This study sought to establish whether the cost leadership, differentiation and focus strategies employed by different fertilizer firms had an effect on the performance of the respective firms.

3. STUDY OBJECTIVES

The general objective was to investigate the effect of strategic responses on performance of fertilizer companies in Kenya.

Specifically, the study sought to:

i. To determine the effect of cost leadership strategy on the company performance of fertilizer companies in Kenya
ii. To investigate the effect of product differentiation strategy on the company performance of fertilizer companies in Kenya
iii. To assess the effect of focus strategy on the company performance on the company performance of fertilizer companies in Kenya

4. THEORETICAL LITERATURE REVIEW

Theories of strategic responses bring out one important factor; firms that employ strategic responses cut a competitive edge for themselves when compared to those that don’t. Our overall theoretical framework builds upon the concept of dynamic fit, i.e. the environment and the strategy interact in a dynamic co-alignment process with resulting performance
implications. Even though in this study we do not explicitly consider performance implications of this process of dynamic fit, we implicitly assume that firms adjust their strategy in response to increased competition in order to maximize subsequent economic performance.

4.1 Resource Based View Theory

This theory was initiated in the 1980’s by Wernfelft (1984), Rumelt (1984) and Barney (1986). It states that competitive advantage of a firm is based on its internal resources and competencies (Wilburn, 2011). Resources are inputs into a firm’s production process. This may include capital, equipment, talented managers among others. RBV’s focus is on resources and capabilities of the firm (Peteraf and Barney, 2003). The assumption of the theory is that a firm starts by looking at the resources they have then assess the potential for value generation and comes with a strategy that will enable them to get maximum value in a sustainable manner. The case for making resources and capabilities the foundation for its long term strategy rests on two premises: one, internal resources and capabilities of the firm provides the basic direction for a firm’s strategy and second resources and capabilities are the primary sources of profit for the firm (Grant, 2001). A firm that wants to remain competitive must be able then to keep its internal strategy to be in-line with the ever-changing external environment (Porter, 1998). Porter’s strategic development process starts by looking at the relative position of a firm in a specific industry. In contrast, the Resource-Based theory is seen as an inside out process of strategy formulation (Grant, 2001). When the external environment is in a state of flux the firm’s own, resources and capabilities provide a stable basis on which to define its identity (Grant, 2001).

Resources in a firm can be classified into two types; these are tangible and intangible resources. Tangible resources include all the physical assets e.g. Vehicles, Land, Equipment, machinery, inventory, bonds, cash among others. These are the resources that are available to the firm but not to its customers. The main disadvantage of these resources is that they are prone to being damaged either by natural occurrences or by people. Intangible resources are nonphysical, they mainly include resources like patents, copyrights, franchisees and trademarks. The intangible resources show the future worth of an organization and may be more important than tangible resources. The main objective of these resources is to create a sustainable competitive advantage. For this to be achieved, the capabilities must be; Valuable, Rare, Difficult to imitate and able to be exploited by the firm (Wilburn, 2011). Resources are said to be valuable when they enable firms to implement strategies that improve effectiveness and efficiency, rare resources are not shared by a large group of companies, resources that are difficult to imitate cannot be used to implement the same strategies and resources shouldn’t have duplicates (Conner, 1991). This theory lies on two assumptions; Firm resource heterogeneity which maintains that there is systematic difference between firms in the industry in terms of the resources they control and Resource immobility, this maintains that resources are relatively stable among firms (Barney, 1991). Companies apply this theory when formulating their strategies. A firm that has unique resources is able to gain a competitive advantage over its competitors and eventually result in better performance. Firms with resources which are valuable can adopt cost leadership strategies. A firm with rare resources can chose to adopt product differentiation strategies as their products may be difficult to imitate.

4.2 Open Systems Theory

Open systems theory was initially developed by Ludwig in 1956. This theory basically refers to the concept that organizations are strongly affected by their environment (Galbraith and Lawler, 1993). Ryszara (2013) defines organizations environment as the events and
relationships that organizations have little control over. Environment exerts pressure in political, economic, social and legal perspective. The environment provides resources that lead to the change and survival of an organization. Scott (2012) mentioned that organizations carry out the businesses they influence and change the environment, at the same time these organizations are influenced by both the local and global environments. This two-way change is known as the active adaptive change. Pearce and Robinson (2007) notes that changes in the external environment have an impact on the organization. People are also known to be open systems. They influence the environment they operate in while at the same time they are constantly influenced by the external environment. The organization is the immediate external environment from an employee’s perspective. The prime driver of the change in the environment is the increasing rate of change in people’s values and expectations. Johnson et al (2005) notes that dealing with the environment is difficult due to its difficulty and complexity.

According to Pfeffer & Salancik (2003), people constantly change their mind on decisions they make. This included products and services they will buy and how they will buy them. Factors like globalization and technological change cause fierce competition that may result to turbulence and uncertainty (Ofunya, 2015). Open systems theory shares the perspective that organizations survival depends on its relationship with the environment (Bastedo, 2004). Grant (2000) states that a successful strategy is one which is consistent with its values, goals and external environment. This indicates that the organizations survival is consistent with the environment and this determines its performance. Machuki and Aosa (2011) notes that an organizations environment is composed of a set of infinite elements outside the boundaries of the environment. Yabs (2010) states that macro environmental factors are those factors that are external to the firm. They refer to the national environment in which the firm operates. Hunger and Wheelen (2010) defines strategic management as a set of managerial actions and decisions that determine the long run performance of an organization. There is no single company that is able to escape the environmental changes. Strategic management enables organizations to effectively and efficiently survive the environmental turbulence. It is fundamental for organizations to fully understand the environment in which they operate in to enable them to form sound strategic responses. This study will also look critically at the environment around the organizations under study.

5. CONCEPTUAL FRAMEWORK

A conceptual framework is a collection of concepts or models that inform a research (Kothari, 2009). In this study, the independent variables include cost leadership strategy, differentiation and focus strategy. The dependant variable is company performance, which is assessed by factors such as profitability, market share, customer satisfaction and number of employees.
Cost leadership strategy
- Operational efficiency
- Competitive pricing
- Minimum use of outside financing

Product differentiation strategy
- Product identification
- Control of distribution channel
- Market innovation

Focus strategy
- New product development
- Innovation in the manufacturing process
- Ability to manufacture specialized products

Company performance
- Profitability
- Number of employees
- Customer satisfaction

Figure 1: Conceptual Framework

From the conceptual framework above the cost leadership strategy application in the firms to be considered in study will be measured through the means the firm will used to ensure it operates at minimum cost to realize maximum returns. These include improved operational efficiency, competitive pricing and minimum use of outside financing all aimed at reducing cost of operation. Product differentiation involves making company products unique, distinct and marketable. These can be achieved through proper product identification, control of distribution channel to enable capitalize on product flow and market innovation aimed at making the product visible, easily acceptable and identifiable to the market. Focus strategy involves the firm identifying its market niche and focussing on its needs, requirements and products. These can involve coming up with a new product specifically for the niche, innovation in the manufacturing process to meet market needs and manufacturing of specialized products for the market identified.

Company performance is the dependent variable for the study. It signifies the effect of application of the three strategies. Performance of a company can be measured in terms of profitability, the growth in size whose parameter can be the rise in the number of employees and also the degree of customer satisfaction.

6. RESEARCH METHODOLOGY

This study used a descriptive-survey research design. The target population for this study was the 600 management staff members of 8 fertilizer companies in their head offices in Nairobi. Out of 33 fertilizer companies, 8 were chosen as they have adopted strategic responses. The management staff was chosen as they fully understand the systems and processes of the organization. These managers have clear information on the strategic responses of the organization. Simple random method was used to determine the individuals who would take part in the research. Out of a sampling frame of 600, a sample of 92 was taken, this was about
15% of the target population. Mugenda & Mugenda (2013) argues that if well chosen, a sample of about 10% of accessible population is considered as a good sample for descriptive studies.

Out of the 600 management staff among the 8 fertilizer firms selected, 92 of them formed the sample population which is 15.33%. This forms a statistically significant sample to be used to collect data that will inform the research findings for the study. Data for this study was collected using a questionnaire with a five point Likert scale, which ranged from 1) strongly disagree to 5) strongly agree. The questionnaires sought information directly from the managers. The questionnaire is recommended in collection of data that is not directly observable, e.g. the attitude and feelings of the respondent. The instrument had both open and close-ended questions. An introductory letter was obtained from the Graduate school of Kenyatta University and was used to obtain permit to access the fertilizer companies in Nairobi. A prior visit was made to explain the intention. Data was collected primarily by administering the data collection instrument at each respondent’s office. The researcher assisted the respondents in filling the questionnaires and made clarification in cases where the respondents did not understand some questions. Data analysis was carried out using both descriptive and inferential statistics. Coding of data was done by assigning values to the respondents on the questionnaires. The raw data was analysed using SPSS allowing for frequencies, percentages and cross tabulations. Relationships between response on performance in the three categories of strategies was determined at p<0.05 and p<0.01. Effects of strategic response on the performance were tested statistically using multiple regression analysis and Pearson’s correlation. An ANOVA test was carried out to investigate the differential impact of different types of strategy.

7. DATA ANALYSIS RESULTS

The researcher conducted multiple regression analysis to establish the influence of strategic responses on organizational performance of fertilizer companies registered in Kenya. The findings are indicated in subsequent sections;

Table 1: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.899</td>
<td>0.851</td>
<td>0.811</td>
<td>0.595</td>
</tr>
</tbody>
</table>

The table above indicates the model summary. The Adjusted (R2) known as the coefficient of determination provides a value of 0.811. This value indicates that 81.1% of the performance of fertilizer companies in Kenya is influenced by the strategic responses they take which include cost leadership strategy, focus strategy and product differentiation strategy. Whereas the remaining variance of 18.9% of the performance of fertilizer companies in Kenya is influenced by other factors other than competitive strategies outline.

Table 2: ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>531.01</td>
<td>3</td>
<td>351.1</td>
<td>437.011</td>
<td>0.000</td>
</tr>
<tr>
<td>Residual</td>
<td>211.20</td>
<td>82</td>
<td>0.950</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>742.21</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
From the ANOVA table above, the value of F calculated is 437.011 while F critical is 366.225. Since the value of F calculated is greater than F critical, the overall regression model was significant and therefore a reliable indicator of the study findings. In terms of p values, the study indicated 0.000, which is less than 0.05 and therefore statistically significant.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>7.49</td>
<td>0.674</td>
<td>8.012</td>
<td>0.000</td>
</tr>
<tr>
<td>Cost leadership strategy</td>
<td>0.655</td>
<td>0.022</td>
<td>0.811</td>
<td>14.15</td>
</tr>
<tr>
<td>Differentiation strategy</td>
<td>0.876</td>
<td>0.033</td>
<td>0.120</td>
<td>11.04</td>
</tr>
<tr>
<td>Focus strategy</td>
<td>0.945</td>
<td>0.029</td>
<td>0.127</td>
<td>1.15</td>
</tr>
</tbody>
</table>

The resultant regression equation becomes: Y = 7.49 + 0.655X1 + 0.876X2 + 0.945X3 + 0.860X4. Where Y is the organizational performance of fertilizer companies registered in Kenya; β0, β1, β2, β3 and β4 are the regression coefficients and X1, X2, X3 and X4 represent cost leadership, differentiation and focus strategies respectively. This implies that when all the variables of the study are held constant, performance of fertilizer companies in Kenya will be at the intercept, which is 7.49. A unit improvement in cost leadership strategy while all other factors held constant results in 0.655 increase in performance of the fertilizer companies, a unit increase in differentiation strategy with other factors held constant leads to 0.876 increase in performance of the fertilizer companies and a unit increase in focus strategy while other factors held constant, translates to a 0.945 increase in performance of fertilizer companies in Kenya.

The findings generally indicate a significant and positive relationship between strategic responses taken by fertilizer firms to gain competitiveness and their organizational performance. Porter’s generic strategic have a significant influence on firm competitiveness. The results agree with studies by Kinyanjui (2013), Wesulah (2016), Kamomoe (2014) and Kamau (2013) but contradicted with a study by Munyasi (2014) on the relationship between the above strategies and firm performance. The study upholds Resource based view theory that organizations have unique resources whose use needs to be diligent and lean to gain competitive advantage. It also supports open systems theory that firms are strongly affected by their environments which are influenced by strategies they take. Competitive strategies have a significant and positive influence on general firm performance.

8. CONCLUSIONS

The study concluded that cost leadership strategy was applied by a few firms in two categories including operational efficiency and competitive pricing. The study established that the fertilizer companies had a greater concern for lowest cost per unit and had their operations being mainly financed by contributions from shareholders. The average cost leadership indicator was 2.78 which indicates average application but not significant among the firms. The study concluded that the fertilizer companies in Kenya were employing product differentiation strategy to remain competitive. The companies were striving to make their products unique, distinct and easily identifiable within the market through building the company reputation within the industry, building company name identification and investing on technology to differentiate their products/services.

It was further concluded that focus strategy was applied to a greater extent by the fertilizer companies in gaining competitive advantage followed by differentiation while the least applied strategy was low cost leadership strategy which proved to be challenging to the
fertilizer companies due to fewer players, low product range and free market economy system which could not favour them. The study further realized that the strategies needed to be intertwined for excellent results.

9. RECOMMENDATIONS

It was recommended that, for the fertilizer companies to grow in scale and profitability and to compete favourably, they need to embrace Michael Porter’s generic strategies of competitive advantage. However, they need to be selective and mix those that can work hand in hand. Low cost leadership strategy should not be applied in a case of starters or highly competitive market although if applied tactfully, it can lure the minds of buyers with the cheap tag to improve sales. Most firms should not only apply the focus strategy but also diversification of products, market and customers is key in risk management given the ever-changing market niche and trend. The firms further need adopt with the changes in government policy, technology, customer needs and requirements, market trends and forces to amicably apply the strategies and compete fairly. The study recommends firms to uphold product differentiation to make their products unique, distinct and easily identifiable within the market through building the company reputation within the industry, building company name identification and investing on technology to differentiate their products/services. This will improve their competitiveness and performance.

REFERENCES


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