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EFFECT OF PRICE SENSITIVITY ON SUPPLY CHAIN MANAGEMENT IN DELIVERY OF QUALITY SEEDS BY KENYA SEED COMPANY

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ABSTRACT

Increasingly, the management of multiple relationships across the supply chain is being referred to as supply chain management (SCM). Strictly speaking, the supply chain is not a chain of businesses with one-to-one, business-to-business relationships, but a network of multiple businesses and relationships. The government of Kenya has been pursuing strategies aimed at increasing agricultural productivity as this has been seen to be central to accelerating economic growth and improving the wellbeing of both rural and urban people in Kenya. The aim of the study was to establish the role of effective supply chain management in delivery of quality seeds by Kenya Seed Company. The study specifically focused on price sensitivity affects procurements ability of Kenya Seed Company to deliver quality seeds. The study design was descriptive research and data for the survey were collected using a questionnaire. The study targets management and staff in the procurement department of Kenya Seed Company operating at Kitale branch office.From the population staff a sample of 30% was obtained from the four divisions. The desired sample was obtained using proportionate sampling. After the development of the draft data collection instruments, a pilot study was conducted at National cereals and produce board Kitale to test the questionnaires. Analysis was done using descriptive statistics specifically frequencies and percentages. The study established that production of quality seeds was costly, hence expensive to buy. This was attributed to the fact that seed production is a business venture and therefore profit making is obligatory.

Keywords: seed, procurement, delivery, price

Introduction

Kenya Seed Company is a state corporation in the Ministry of Agriculture and as an organization is one of the country's economically central state corporations. The company was established to breed and prepare high quality crop seeds for Kenyan and regional farmers. The Kenya Seed Company remains the giant seed company in East Africa; the position it has held for several decades. It has branches and functional offices in Kenya, Uganda and Tanzania making the seed maker a Multinational. It provides employment to thousands of residents of the three countries. The mandate of Kenya Seed Company is to carry out focused research, promote and facilitate production of high yielding, better quality

certified seed to farmers and stakeholders, to enhance food self sufficiency which is an indicator of the quality of people's lives and a condition for sustainable economic prosperity. Kenya Seed Company is the most established seed company in Kenya. In its establishment the company must have employed some strategies in achieving competitive advantage over other seed producing companies. Thus the company has supply chain management which gives it an edge over other similar organizations.

Increasingly, the management of multiple relationships across the supply chain is being referred to as supply chain management (SCM). Strictly speaking, the supply chain is not a chain of businesses with one-to-one, business-to-business relationships, but a network of multiple businesses and relationships. SCM offers the opportunity to capture the synergy of intra- and intercompany integration and management. In that sense, SCM deals with total business process excellence and represents a new way of managing the business and relationships with other members of the supply chain (Christopher & Peck 2004). Supply chain management (SCM) is "the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole" (Juttner et al. 2003). It has also been defined as the "design, planning, execution, control, and monitoring of supply chain activities with the objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demand and measuring performance globally" (Wagner & Bode 2006).

Effective supply chain management is a critical component of any company's ability to meet consumer demand. Disruptions to the supply chain disturb the normal flow of goods and materials and, as a consequence, expose firms to operational and financial risks. It is important to consider Supply chain management in SCM. Supply chain vulnerability (SCV) is defined "as the existence of random disturbances that lead to deviations in the supply chain of components from normal, expected or planned schedules or events, all of which cause negative effects or consequences for the involved manufacturer of its sub-contractors (Swenson 2000). .

The government of Kenya has been pursuing strategies aimed at increasing agricultural productivity as this has been seen to be central to accelerating economic growth and

improving the wellbeing of both rural and urban people in Kenya. Seed has been recognized as a core component to realizing this strategy. Compared to other agricultural inputs, seed has been shown to have the greatest potential to increase on-farm productivity and enhance food security (Muyanga et al, 2005).

Literature Review

The source of the commodity price change matters in terms of its economic effects on commodity exporters. In particular, commodity prices underpinned by unexpected changes in global activity (demand) have a significant effect on exporters' real activity and external and fiscal balances, while those driven by unexpected changes to global commodity production (supply) are not always significant. This effect is generally stronger for oil exporters than for exporters of other commodities (Collier, Paul, and Benedikt Goderis, 2007).

The optimal fiscal policy response to commodity price fluctuations for small commodity exporters is a countercyclical policy stance: save commodity-related revenue increases during upswings and use these buffers during downswings. Such a fiscal stance dampens the macroeconomic volatility arising from commodity price fluctuations (Collier, Paul, Frederick van der Ploeg, Michael Spence, and Anthony J. Venables, 2010).

The effectiveness of a countercyclical policy stance, however, also depends on the degree of monetary policy autonomy—fiscal policy is more effective under an inflation-targeting regime with a flexible exchange rate because monetary policy helps reduce inflation volatility. It also depends on the level of public net debt—at high levels of debt, debt reduction should become a priority to help reduce the sovereign risk premium and build credibility. Furthermore, for some commodity market shocks and under some circumstances, a less countercyclical policy response in major commodity exporters might be the preferred solution from the perspective of collective action (Barnett, 2001).

Under permanent commodity price changes, the pivotal issue becomes how best to adjust to the permanently higher or lower commodity-related fiscal revenue levels. For a permanent price increase, increases in public investment and reductions in taxes on labor and capital boost private sector productivity and welfare. However, distinguishing between temporary and permanent commodity price changes is not a trivial exercise. This underscores the need

to enhance policy frameworks and fiscal buffers, while gradually incorporating new information about the persistence of commodity prices (Deaton, 1999).

What are the lessons for the longer term? Commodity prices may be experiencing a long upswing and prices may stay close to current historic highs. Alternatively, they may retreat in response to increasing user efficiency and the unwinding of earlier supply constraints. Given the unusual uncertainty and the difficulty of projecting commodity market prospects in real time, the best approach is a cautious one that builds buffers to address cyclical volatilities and gradually incorporates new information to allow a smooth adjustment to potentially permanently higher commodity prices (De Gregorio, José, Hermann González, and Felipe Jaque, 2005).

No matter how much revenue is pouring in, a firm is not likely to prosper if its spending is undisciplined. It is critical for companies to manage their procurement processes intelligently to maintain a competitive edge in the marketplace. The buyer's costs consist of two parts: procurement price and operating cost. The demand for commercial seed competes with farmer-saved seed, making demand for the former highly price elastic. In other words, small changes in the price of commercial seed can have a large effect on demand.

The former refers to the total amount the buyer pays the supplier for delivering the products, and the latter includes stock-holding cost and goodwill loss for backlogged demand. The setting described above reflects a situation faced by many buyers who depend on their suppliers for the delivery of components or products. It is well known that a supplier's delivery or service lead time should factor prominently in the procurement decision (Swenson 2000). The other major factor the buyer needs to consider is how much to order from the supplier. This decision is essentially the same as the market price chosen by the buyer, because it is the market price that determines the demand level. However, the optimal market price is dependent on the procurement price, which is linked to the supplier's production cost.

Tinsley (2009) argues that there are critical differences between a "xed-price, periodic-review inventory and a model that also includes pricing decisions. The economical interpretations of these differences relate to the various ways that price plays into the decision problem. First, price is a decision variable that determines the revenue per unit sold. Second, price is a factor that in influences the demand, thus the period-ending inventory levels. In addition, when

backlogging occurs, apart from the amount of backorders, the backlogging policy must also account for the price that applies to backorders and the timing of revenue collection. For instance, backorders could be sold at the current price in advance, or at a future price set at the time of delivery.

Peck (2005) observes that when the decision maker confronts the pricing and inventory decisions simultaneously, in addition to the two opposing cost-related elects that we noted above, price-related factors must also be taken into account. Mainly, there will be a trade-off between the high-price low-demand and low-price high-demand scenarios, in terms of discounted total revenue. Unfortunately, this complex relationship between the cost and revenue trade-offs does not allow the model to simplify into separate pricing and procurement decisions. When high-low pricing occurs, forward buying may well be a rational decision. If the cost of holding inventory is less than the price differential, buying in advance makes sense. In fact, the high-low pricing phenomenon has induced a stream of research on how companies should order optimally to take advantage of the low price opportunities.

Economists stress the importance of price in determining how much people will buy. That is why they put price on the demand graph, but there are other things that affect how much of a product we buy besides the price. When we developed my demand curve for pizza we employed the *ceteris paribus* assumption. I didn't get a large increase in my income. I didn't win the lottery. There wasn't a new study out that stated pizzas cause cancer. All other factors remained the same - only the price and quantity demanded changed.

Methodology

According to (Dell, 2003), a descriptive research design is suitable where the study seeks to describe and portray characteristics of an event, situation, and a group of people, community, or a population. It enables the researcher to profile the sample or population by gathering accurate information. The study design was descriptive research and data for the survey were collected using a questionnaire.

The study targeted management and staff in the procurement, production, processing, and transport/logistics departments of Kenya Seed Company operating at Kitale branch office. This was justified on the basis that these are the individuals who are directly involved in seed issues in the company right away from production to supply to the market. The Kitale branch

was settled on since it is the headquarters of the company and most seed production and processing take place there.

Kenya Seed Company has its main office in Nairobi with branches in Nakuru, Kitale, Kisii, Kakamega, Kericho, Eldoret and Bungoma. The study focused on Kitale branch which is considered as Kenya's grain basket. A list of all the staff engaged in procurement, production, processing and transport/logistics department and the local suppliers were obtained from the Kitale office.

According to Mugenda &Mugenda (1999) the researcher should take as big a sample as possible if he has adequate time for the study - to ensure that someone else would get similar findings to a high degree if he selected another sample of the same size**.** Gay (2005) suggests that 10% of the accessible population would suffice for descriptive study if the population units are more than 30. From the population of 100 staff a sample of 30% were obtained from the procurement, processing, production, transport/logistics department.The desired sample was obtained using proportionate sampling. The target population was divided into strata, and then final subjects were randomly selected.

Results

The study was on effect of price sensitivity on procurement of quality seeds. Respondents' responses on these objectives are presented in table 1.1.

Table 1.1: Effect of Price Sensitivity on Procurement of Quality Seeds

	Statement	SA	A	U	D	SD
I	Price determines procurement of quality seeds	20(62.5%)	8(28%)	2(6.3%)	2(6.3%)	0(0.0%)
Ii	High quality seeds are sold at escalated price	15(46.9%)	10(31.3%)	2(6.3%)	5(15.6%)	0(0.0%)
Iii	Farmers are sensitive on seed prices	25(78.1%)	5(15.6%)	2(6.3%)	0(0.0%)	0(0.0%)
Iv	Production of quality seeds is costly, hence expensive to buy	20(62.5%)	10(31.3%)	0(0.0%)	2(6.3%)	0(0.0%)
V	Different seed prices caters for heterogeneous needs and	22(68.8%)	8(25%)	2(6.3%)	0(0.0%)	0(0.0%)

	adequate spending power of customers					
Vi	Price of seeds depend on production cost not quality	0(0.0%)	2(6.3%)	0(0.0%)	20(62.5%)	10(31.3%)
Vii	Quality enables product to compete on non-price variables	20(62.5%)	8(25%)	0(0.0%)	2(6.3%)	0(0.0%)
viii	Quality seeds and realistic prices enhance the company reputation	24(75%)	6(18.8%)	2(6.3%)	0(0.0%)	0(0.0%)
Ix	Price sensitivity is based on customer demands	16(50%)	8(25%)	0(0.0%)	6(18.8%)	2(6.3%)

Data in table 1.1 indicate that majority 20(62.5%) of the respondents involved in the study strongly agreed with the statement that price determines procurement of quality seeds. Additionally, 8(25%) of the respondents agreed with the statement that price determines procurement of quality seeds. Cumulatively, 28(87.5%) of the respondents involved in the study acknowledged the statement that price determines procurement of quality seeds. This was attributed to the fact that quality seeds involves costly inputs and ultimately its pricing. This concurred with Peck (2002) that there will be a trade-off between the high-price low-demand and low-price high-demand scenarios, in terms of discounted total revenue. Unfortunately, this complex relationship between the cost and revenue trade-offs does not allow the model to simplify into separate pricing and procurement decisions. When high-low pricing occurs, forward buying may well be a rational decision. If the cost of holding inventory is less than the price differential, buying in advance makes sense. In fact, the high-low pricing phenomenon has induced a stream of research on how companies should order optimally to take advantage of the low price opportunities.

However, 2(6.3%) of the respondents were undecided about the statement in question as 2(6.3%) refuted it.

Furthermore, 15(46.9%) of the respondents engaged in the study strongly agreed with the statement that high quality seeds are sold at escalated price. In addition, 10(31.3%) of the respondents agreed with the statement in question. Therefore, 25(78.2%) of the respondents involved in the study acknowledged the statement that high quality seeds are sold at escalated

price. Therefore, farmers who are financially stable can afford procurement of quality seeds. The clients who are economically low are likely to go in for cheap and low quality seeds or even traditionally prepare theirs from the farm crop.

During marketing of seeds, the company sensitizes farmers on price. This is important since it assist them in planning and budgeting. Table 1.1 shows that majority 25(78.1%) of the respondents involved in the study strongly agreed with the statement that farmers were sensitized on seed prices. In addition, 5(15.6%) of the respondents involved in the study agreed with the statement in question. Cumulatively, 30(93.7%) of the respondents involved in the study acknowledged the statement that farmers were sensitized on seed prices. However, 2(6.3%) of the respondents were undecided about the statement in question.

Nevertheless, 20(62.5%) of the respondents involved in the study strongly agreed with the statement that production of quality seeds was costly, hence expensive to buy. In addition, 10(31.31%) of the respondents agreed with the statement in question that production of quality seeds was costly, hence expensive to buy. Therefore, 30(93.8%) of the respondents acknowledged the statement that production of quality seeds was costly, hence expensive to buy. This was attributed to the fact that seed production is a business venture and therefore profit making is obligatory. In this regard Tinsley (2009) argues that there are critical differences between a "xed-price, periodic-review inventory and a model that also includes pricing decisions. The economical interpretations of these differences relate to the various ways that price plays into the decision problem. First, price is a decision variable that determines the revenue per unit sold. Second, price is a factor that in influences the demand, thus the period-ending inventory levels. In addition, when backlogging occurs, apart from the amount of backorders, the backlogging policy must also account for the price that applies to backorders and the timing of revenue collection. For instance, backorders could be sold at the current price in advance, or at a future price set at the time of delivery. However, 2(6.3%) of the respondents disagreed with the statement in question.

Any seed production company should cater for different seed prices for heterogeneous needs to adequately meet spending power of customers. Data show that 22(68.8%) of the respondents involved in the study strongly agreed with the statement that different seed prices caters for heterogeneous and adequate spending power of customers. In addition 8(25%) of the respondents involved in the study agreed with the statement in question. Therefore, cumulatively, 30(93.8%) of the respondents involved in the study acknowledged the

statement that different seed prices cater for heterogeneous needs and adequate spending power of customers. The Kenya Seed Company limited does this through a number of strategies. First, the seeds are packaged in packers of different weighs ranging from two kilogrammes packed to 25 kilogrammes for maize seeds and as low as 10 grams for vegetable seeds. This enables customers to buy the seeds. This enables customers to buy the seeds according to their economic ability.

Furthermore, the study sought to establish the respondents opinions on the statement that prices of seeds depend on production cost and not quality. The study revealed that 20(62.5%) of the respondents involved in the study strongly disagreed with the statement that prices of seeds depend on production cost and not quality. Additionally, 10(31.3%) of the respondents disagreed with the statement under investigation. Therefore, 30(93.8%) of the respondents refuted the statement that prices of seeds depend on production of cost and not quality. This was an implication that prices of seeds were not pegged on production cost but quality.

Similarly, respondents were subjected to the statement that quality enables products to compete on non-price variables. Data reveals that majority 20(62.5%) of the respondents involved in the study strongly agreed with the statement that quality enables products to compete on non-price viable. In addition, 8(25%) of the respondents involved on the study agreed with the statement in question. Therefore, 28((87.5%) of the respondents involved in the study acknowledged the statement that quality enables products to compete on non-price variables. This was an implication that quality is a variable which determines product competition. The high quality products have competitive advantage over the low quality ones and thus customers will always opt for high quality ones. However, 4(12.5%) of the respondents involved in the study refuted the statement that quality enables products to compete on non-price variables.

Furthermore, the study found out respondents' views on whether quality seeds and realistic prices enhance the company reputation. Data reveal that majority 24(75%) of the respondents involved in the study strongly agreed with the statement that quality seeds and realistic prices enhanced the company reputation. Similarly, 6(18.8%) of the respondents agreed with the statement that quality seeds and realistic prices enhanced the company reputation. Cumulatively, 30(93.8%) of the respondents engaged in the study acknowledged the statement that quality seeds and realistic prices enhanced the company reputation. This implied that the quality of seeds produced by the Kenya seed company limited was equal to

sale price. Therefore, there was customer satisfaction and loyalty to the company's products. However, 2(6.3%) of the respondents involved in the study were undecided about the statement that quality seeds and realistic prices enhanced the company reputation.

In addition the study set out, to establish whether price sensitivity was based on customer demands. Half 16(50%) of the respondents involved in the study strongly agreed with the statement that price sensitivity was based on customers demand. Furthermore, 8(25%) of the respondents involved in the study agreed with the statement that price sensitivity was based on customer demands. Therefore, 24(75%) of the respondents involved in the study acknowledged that assertion that price sensitivity was based on customer demands.

Conclusion

The study further established that production of quality seeds was costly, hence expensive to buy. This was attributed to the fact that seed production is a business venture and therefore profit making is obligatory. Furthermore, that demand swings do not lead the seed company to attain its marketing objectives. This is because the swing may either work for or against the company.

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