

Collaborative Supply Chain Practices on Performance of Food and Beverages Companies: A Case Study of Del Monte Kenya Ltd

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ABSTRACT

Collaboration is the driving force behind effective supply chain management and, as such, may be considered the ultimate core capability. However, the potential performance benefits have made collaboration a popular supply chain practice, surveys shows its complex structure has left Kenyan companies struggling with implementing and conducting. Therefore the general purpose of this study was to investigate collaborative supply chain practices in the performance of Del Monte Kenya Ltd. The study adopted a descriptive case study design. The target population for the study was 243 staff members. Stratified random sampling technique was used to select 73 participants from the sampling list. The researchers used questionnaire to collect information from respondents. The collected data was analyzed using quantitative and qualitative techniques. The study found out that information sharing and resource sharing has positive influence in the performance company. Companies should share resources with key suppliers in order to leverage capabilities. The study recommends that food manufacturing firms should collaborate with suppliers and other stakeholders in information and resources sharing to achieve high performance.

Key words: Collaboration, information, resources, company, performance



INTRODUCTION

Today the new source of business competition lies outside the walls of organizations, and is determined by how effectively companies link their operations with their supply chain partners such as suppliers, distributors, wholesalers, retailers and end customers (Sonja, Sohal, & Baihaqi, 2007). The forward-looking enterprises today are dynamic; they collaborate with suppliers, customers and even with competitors; share information and knowledge aiming to create a collaborative supply chain that is capable of competing if not leading the particular industry (Koh *et al.*, 2007). Supply chain collaboration has become an integral part of supply chain management (Matopoulos *et al.*, 2007). In the past decade "collaboration" has made the transition from being a purely theoretical concept to becoming a widely adopted supply chain practice (Wiengarten, Humphreys, Cao, Fynes, & McKittrick, 2010).

Increased competition and the widespread availability of web-based technologies have led to a rise in supply chain collaboration across a wide range of industry sectors such as the automotive industry (Ireland, 1999; Bagchi & Skjott-Larsen, 2005). Collaboration can be simply understood as a process of decision-making among interdependent parties across the many tiers in the supply chain, which involves joint ownership of decisions and collective responsibility for outcomes (Stank *et al.*, 2001). Collaboration is defined as two or more companies sharing the responsibility of exchanging common planning, management, execution, and performance measurement information (Anthony, 2000). The general idea is that much can be gained from collaborating with supply chain partners.

Kenya's economy has remained largely agriculture based and industrialization remains a key factor in Kenya's development plans (Government of Kenya, 2007). Food production has always been a precondition for the development of civilization (Kenya Institute for Public Policy Research and Analysis, 2013). According to Munguti, (2013) food processing covers: foods, beverages, dairy, vegetable oil, grain milling, baking and confectionery, fruits and vegetables, meat and fish, honey, nuts, mushroom, etc. Food sector constitutes about a third of the manufacturing sector in Kenya and that the sector adds value to agricultural produce and therefore its success depends on efficient agriculture sector. The Manufacturing sector contributes about 10% of the Kenya's GDP of which the food sector contributed about a third (33.4%) of the total manufacturing production in 2009. The food processing sector can therefore be a key driver of the economic growth and growth in this sector can have a direct and significant impact on the whole Kenya's economy.

Statement of the problem

Collaboration has been referred to as the driving force behind effective supply chain management and, as such, may be considered the ultimate core capability (Sanders & Premus, 2005). However, there's also fairly widespread belief that few firms have truly capitalized on the potential benefits of collaboration (Barratt, 2003; Crum & Palmatier, 2004). Although the potential performance benefits have made collaboration a popular supply chain practice, surveys shows its complex structure has left Kenyan companies struggling with implementing and conducting (Shalle, Guyo, & Amuhaya, 2014). Manufacturing firms especially food and beverage companies has not achieved high levels of collaboration necessary for delivering high



economic growth (Kamau, 2013). For example, Del Monte Kenya Ltd is the largest exporter of pineapples from Africa to UK, France, Germany, Italy, Belgium and Netherlands (Munyambu, 2015). Also the company outsources its non-core functions like warehousing, transportation, information technology and distribution from suppliers but, the company has not been fully committed to the establishment of long term relationships with its suppliers and other stakeholders (Karangi, 2013). Del Monte Kenya Ltd has not fully benefitted from outsourcing due to frequent embroiled relationships with suppliers (Karangi, 2013).

Recently in Kenya, researchers have highlighted the multidimensional nature of collaboration. Collaboration in buyer-supplier relationships should incorporate information sharing; joint decisions and incentive alignment enhance competitive advantage to the firms (Shalle *et al.* 2014). But the study is limited to the buyer-supplier relationships in procurement function. A study by Kamau (2013) focused on the extent to which manufacturing have adopted buyer-supplier relationships. Therefore the study fails to demonstrate on how information sharing; joint decisions and incentive alignment are enhanced to create buyer-supplier relationships. All these studies only focus on buyer-supplier relationships, but in collaborative supply chain involves all supply chain partners such as suppliers, distributors, wholesalers, retailers and end customers and who may not necessary buyer or supplier (Sonja, Sohal, & Baihaqi, 2007). Therefore, the purpose of this study was to investigate collaborative supply chain practices in performance of Del Monte Kenya Ltd.

General Objective of the Study

The general purpose of this study was to investigate collaborative supply chain practices in performance of Del Monte Kenya Ltd.

Specific Objectives of the Study

- 1. To determine the influence of information sharing in the performance of Del Monte Kenya Ltd.
- To investigate the influence of resource sharing in the performance of Del Monte Kenya Ltd.

Research Questions

- 1. What is the influence of information sharing in the performance of Del Monte Kenya Ltd.?
- 2. What is the influence of resource sharing in the performance of Del Monte Kenya Ltd.?

LITERATURE REVIEW

The study was anchored and supported by the following theories.

The network perspective (NT)

The performance of a firm depends not only on how efficiently it cooperates with its direct partners, but also on how well these partners cooperate with their own business partners. NT can be used to provide a basis for the conceptual analysis of reciprocity (Oliver, 1990) in



cooperative relationships. Here, the firm's continuous interaction with other players becomes an important factor in the development of new resources (Haakansson & Ford, 2002). Relationships combine the resources of two organizations to achieve more advantages than through individual efforts. Such a combination can be viewed as a quasi-organization (Haakansson & Snehota, 1995; Haakansson, 1987). The value of a resource is based on its combination with other resources, which is why inter-organizational ties may become more important than possessing resources. Thus, the resource structure determines the structure of the supply chain and becomes its motivating force. The network theory (NT) contributes profoundly to an understanding of the dynamics of inter-organizational relations by emphasizing the importance of "personal chemistry" between the parties, the build-up of trust through positive long-term cooperative relations and the mutual adaptation of routines and systems through exchange processes. Through direct communication, the relationships convey a sense of uniqueness, ultimately resulting in supply chains as customization to meet individual customer requirements. The parties gradually build up mutual trust through the social exchange processes. A network does not seek an optimal equilibrium, but is in a constant state of movement and change. Links between firms in a network develop through two separate, but closely linked, types of interaction: exchange processes (information, goods and services, and social processes) and adaptation processes (personal, technical, legal, logistics, and administrative elements) (Johanson & Mattsson, 1987).

NT is descriptive in nature and has primarily been applied in SCM to map activities, actors, and resources in a supply chain. The focus has been on developing long-term, trust based relationships between the supply chain members. Examples of issues include buyer-supplier relationships (Gadde & Haakansson, 2001), third party logistics (Halldorsson, 2002), & management roles in supply networks (Harland and Knight, 2001). This theory can be applied in this study because for collaborations to be enhanced members of supply chain need to share information, joint decision making, incentives alignment and sharing other resource like finance, materials and equipment and technology (Malhotra *et al.*, 2005).

Strategic Choice Theory

The early empirical studies on the relationship between organizational structure and situational factors such as technology by Blau, Hage and Aiken, Hal, Lawrence, and Lorsch in the United States and Pugh and Woodward in Britain provided material for development of models that helped the Strategic choice theory (SCT) to advance (Child, 1972). According to these models, the goal of the organizations is to achieve high performance standards and increase the efficiency to the limits of economic constraints. In these studies, little attention was paid to situational (contextual) factors for example, environment, technology, and scale of operation and the agency of choice any agent in the organization who has the power to direct the organization, e.g. managers (Child, 1972).

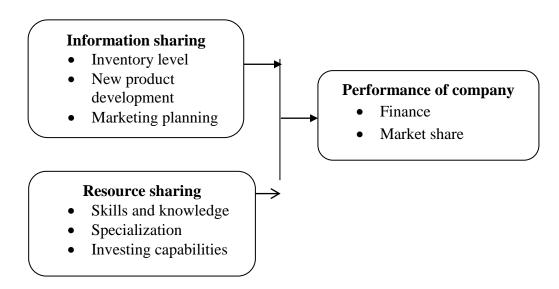
Strategic decisions in organizations have significant effects on organizational outcomes. Child (1972), in his seminal article on the role of strategic choice, provided a theoretical framework for this theory. Strategic choice theory, according to Child's perspective is less concerned with the functional operation of the organization and has more to do with the governance structure



and political actions in organizations. Strategic choice emphasizes the importance of establishment of structural forms, the manipulation of environmental features, and the choice of relevant performance standards in achieving organizational goals (Child, 1972). According to the SCT, managers play an important role in achieving organizational outcomes through their decision making or leading the changes in organizations (Child, 1972; Ketchen & Hult, 2007). This strategic decision making functions at three levels: Top tier or long term planning, middle tier or functional level, and bottom tier at the individual level (Kochan, Katz & McKersie, 1986). Strategic choice theory views managers as proactive agents who are down-stream decision-makers and mainly focus on directing major decisions and change processes in organizations. Change, or what Child (1972) calls "variation in organizational structure," is caused by three contextual factors: environmental conditions, technology, and size.

This theory is useful to this study because managers play an important role in achieving organizational outcomes through their decisions making (Child, 1972). For example, managers in food and beverage manufacturing firms must foster continuous commitment to communication and collaboration at different levels across, within, and between organizations, involving staff from different departments, supply chain members and organizational levels in strategic planning and establish risk awareness via training and education, if they are to take the first steps to becoming more resilient (Scholten *et al.*, 2014). Managers should be able to develop a good relationship with suppliers, and hence find beneficial ways to make strategic and effective decisions.

Conceptual Framework



Supply chain collaboration has become an integral part of supply chain management (Matopoulos *et al.*, 2007). In the past decade "collaboration" has made the transition from being a purely theoretical concept to becoming a widely adopted supply chain practice. Increased competition and the widespread availability of web-based technologies have led to a



rise in supply chain collaboration across a wide range of industry sectors such as the automotive industry (Ireland, 1999; Bagchi & Skjott-Larsen, 2005). And according to Simatupang and Sridharan (2005), practitioners and academics are increasingly interested in supply chain collaboration (Corbett *et al.*, 1999; Horvath, 2001; Cetindamar *et al.*, 2005). Collaboration can be simply understood as a process of decision-making among interdependent parties across the many tiers in the supply chain, which involves joint ownership of decisions and collective responsibility for outcomes (Stank *et al.*, 2001).

Supply chain relationships in general and collaboration in particular have become very active and well-established research domains (Pagell, 2004). A growing body of literature suggests that a number of companies are beginning to reap-off significant benefits from their collaborative initiatives (Narasimhan & Jayaram, 1998; Shin *et al.*, 2000; Vereecke & Muylle, 2006; Simatupang & Sridharan, 2005; Sanders, 2007, 2008). Previous research has established that tight integration and collaboration between departments and organizations can lead to increased performance (Forrester, 1961; Pagell, 2004), whereas a lack of integration and collaboration is problematic (Forrester, 1961; Lee & Billington, 1992; Frohlich & Westbrook, 2001). In the manufacturing industry collaboration has resulted in the globalization of supply chains and the manufacture of more complex products to be sold at decreasing prices.

While the potential performance benefits have made collaboration a popular supply chain practice, its complex structure has left companies struggling with implementing, conducting and measuring collaborative supply chain initiatives (Barratt, 2004). Recently, researchers have highlighted the multidimensional nature of collaboration that goes beyond the exchange of information. Collaborative practices should also incorporate joint decision-making and the alignment of incentives (Simatupang & Sridharan, 2002, 2005). In addition to its multidimensional nature, a vital factor for the success of collaborative practices seems to be the quality of the exchanged information between supply chain partners (Monczka *et al.*, 1998; Malhotra *et al.*, 2005). With regard to collaborative supply chain practices, the food and beverage companies has shared some of the collaborative supply chain practices for many years to arguably an unparalleled level compared with other industries. However, Information sharing, joint decision making, incentive alignment and resource sharing has been largely overlooked by previous research especially in Kenya.

For example a study conducted by Kamau, (2013) on the effect of buyer – supplier relationships on organizational performance among large manufacturing firms in Kenya. The study revealed that there is a significant relationship between buyer-supplier and organizational performance. The study focused on trust, communication, cooperation, commitment and mutual goals as independent variables. These variables are narrow and can be classified as joint planning and therefore the study was limited in their findings.

A study done by Mukhwana, (2010) discussed on supply chain management practices on performance. The study found that indeed supply chain management practices have an effect on the organizational performance. However this study was general in referring to supply chain management and not specific areas in supply chain management that affects organizational performance. Oyiela, (2011) researched on competitive strategies and performance of commercial banks in Kenya. The study found that commercial banks following a differentiation



strategy realized statistically significant superior performance as compared to those pursued focus strategy and cost leadership strategy. The researcher focused only on competitive strategies but did not look in to those specific competitive strategies that affect organizational performance.

Research Gaps

Previous research has established that tight integration and collaboration between departments and organizations can lead to increased performance (Forrester, 1961; Pagell, 2004), whereas a lack of integration and collaboration is problematic (Forrester, 1961; Lee and Billington, 1992; Frohlich & Westbrook, 2001). But in the manufacturing industry collaboration has resulted in the globalization of supply chains and the manufacture of more complex products to be sold at decreasing prices. Thus there is a need to manage these complex supply chains globally in order to increase performance of manufacturing firms.

Also with regard to collaborative supply chain practices, the food and beverage companies has shared some of the collaborative supply chain practices for many years to arguably an unparalleled level compared with other industries. However, Information sharing, joint decision making, incentive alignment and resource sharing has been largely overlooked by previous research especially in Kenya. Also a study by Karangi (2013) "effects of outsourcing on organizational performance in Del Monte Kenya Ltd" in his findings Del Monte Kenya Ltd outsources its non-core functions like warehousing, transportation, information technology and distribution from suppliers but, the company has not been fully committed to the establishment of long term relationships with its suppliers and other stakeholders and the Company has not fully benefitted from outsourcing due to frequent embroiled relationships with suppliers (Karangi, 2013). Therefore this study sought to fulfill this gap by looking at collaborative supply chain practices in the performance of Del Monte Kenya Ltd.

RESEARCH METHODOLOGY

This study adopted descriptive case study design. This design utilized both quantitative and qualitative data, which enabled the researcher to have an in-depth examination of the key indicators under investigation. It was also intended to provide answers to the research question. The design was chosen since it was deemed to be the most effective to significantly contribute of to the depth and specificity of the study. The study focused on Del Monte Kenya Ltd and according to Del Monte Human resource records; there are 243 top, middle and low levels of management staff. The study used probability sampling design by using a stratified random sampling technique to select individual respondents. Stratified random sampling was used to group respondents into three strata as; 50 senior managers, 93 middle level managers, 100 Procurement staff. Simple random sampling was used to select 30 per cent of the population on each category.



The questionnaire was designed to collect information from respondents. Pilot study was conducted by involving 7 respondents to ascertain reliability and validity of the instrument. The filled questionnaires were analyzed both qualitatively and quantitatively and the findings were presented in tables with the help of SPSS.

RESEARCH FINDINGS AND DISCUSSION

Response Rate

From the 73 questionnaires administered, 46 were filled and returned. This represented a 63.01% response rate, which is considered satisfactory to make conclusions for the study. This high response rate was attributed by the data collection procedure, where the researcher personally administered questionnaires and waited for the respondents to fill and picked the filled questionnaires. According to Mugenda and Mugenda (2003) a 50% response rate is adequate, 60% good and above 70% rated very good. This implies that based on this assertion; the response rate in this case of 63.01% is good.

Table 4.1 Response rate

Category	Target Population	Sample size	Response rate
Senior Managers	50	15	8
Middle Level Managers	93	28	17
Procurement Staff	100	30	21
Total	243	73	46

Information Sharing

The study sought to determine the influence of information sharing in the performance of Del Monte Kenya Ltd. The respondents were asked to indicate the extent to which their organization shares information with their key suppliers. This was on a scale of not at all, small extent, moderate, large extent and very large extent. The score very large extent represents very high influence of information sharing and has been taken to be equivalent to mean score of 4.1 to 5.0 on the likert scale. The scores large extent represents high influence of information sharing and is equivalent to a mean score of 3.1 to 4.0. The score moderate represent moderate influence and taken to be equivalent to mean score of 2.1 to 3.0. The small extent scores represent low influence of information sharing and taken to be equivalent to mean score of 1.1 to 2.0. And the score not at all have been taken to be equivalent to mean score of 0.1 to 1.0. A standard deviation of more than one implies a significant difference in respondents.

A result of the analysis is presented in table 4.2. According to the results of the study, the respondents indicated very high influence of information sharing with a mean score ranged 4.1 to 5.0, except for long strategic plans and events whose mean score was 3.97 (high influence). There were no significant differences in the respondents' responses.



The study determined the influence of information sharing and the result indicated that from the respondents out of four items given, Information about new product developments or changes in existing products with key suppliers, Information about inventory level with key suppliers, information about market and economic situations and forecasts with key suppliers received the highest mean ratings of 4.67, 4.36 and 4.33 respectively. These results concur with Matopoulos *et al.*, (2007); Min *et al.* (2005) and Bowersox *et al.*, (2003) in their study findings found out that forecasting data (e.g. demand forecasting, materials requirements, etc.) are considered essential elements of shared information due to the strong impact on production and shipping scheduling as well as inventory management. In addition, production schedules and the resulting materials requirements are routinely shared by their key collaborative partners.

Table 4.2: Mean score for information sharing in the performance of Del Monte

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	N	Mean	Std. Dev. Rating	
Information about new product			_	
development or changes in existing				
products with key suppliers	46	4.67	0.504Very High	
Information about inventory level with				
Key suppliers	46	4.36	0.722Very High	
, 11			, 3	
Information about market & economic				
	4.0	4.22	O CECVama High	
Situation & forecasts with key supplier	46	4.33	0.656Very High	
Information about long-term strategic				
plans & events	46	3.97	0.911 High	
Valid N(list wise)	46			
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Resource Sharing

The study sought to determine the influence of resource sharing in the performance of Del Monte Kenya Ltd. The respondents were asked to indicate the extent to which their



organization leverages capabilities, resources as well as investing in capabilities, resources and assets with key suppliers. This was on a scale of not at all, small extent, moderate, large extent and very large extent. The score very large extent represents very high influence of resource sharing and has been taken to be equivalent to mean score of 4.1 to 5.0 on the likert scale. The scores large extent represents high influence of resource sharing and is equivalent to a mean score of 3.1 to 4.0. The score moderate represent moderate influence and taken to be equivalent to mean score of 2.1 to 3.0. The small extent scores represent low influence of resource sharing and taken to be equivalent to mean score of 1.1 to 2.0. And the score not at all have been taken to be equivalent to mean score of 0.1 to 1.0. A standard deviation of more than one implies a significant difference in respondents.

A result of the analysis is presented in table 4.3. According to the results of the study, the respondents indicated very high influence of resource sharing with a mean score ranged 4.1 to 5.0. There were no significant differences in the respondents' responses.

The study determined the influence of resource sharing and the result indicated that from the respondents out of three items given, sharing knowledge in leveraging capabilities with suppliers, share expertise on major projects with key suppliers and developing contingency plan for major investment with suppliers received the score mean ratings of 4.67, 4.58 and 4.51 respectively. This result concurs with the findings of Bowersox *et al.*, (2003) that supply chain entities create cross-organizational linkages because they have something to gain. For example, voluntarily agree to integrate human, financial, or technical resources in order to create a better business model.

Table 4.3: Mean score for resource sharing in the performance of Del Monte

Table 4.5. Mean score for resource sharing	N	Mean	Std. Dev.	Rating
Share knowledge in leveraging				
Capabilities with key suppliers	46	4.67	0.508Very High	
Share expertise in major projects				
With key suppliers	46	4.58	0.508Very	High
Develop contingency plan for				
Major investment with suppliers	46	4.51	0.545	Very High
Valid N(list wise)	46			



Performance of Del Monte Company Ltd

The study sought to determine the performance of Del Monte Kenya Ltd. The respondents were asked to indicate the performance rate of their company regarding the indicators given as result of collaboration with key suppliers. This was on a scale of not at all, small extent, moderate, large extent and very large extent. The score very large extent represents very high rate of performance and has been taken to be equivalent to mean score of 4.1 to 5.0 on the likert scale. The scores large extent represents high rate of performance and is equivalent to a mean score of 3.1 to 4.0. The score moderate represent moderate rate and taken to be equivalent to mean score of 2.1 to 3.0. The small extent scores represent low rate of performance and taken to be equivalent to mean score of 1.1 to 2.0. And the score not at all have been taken to be equivalent to mean score of 0.1 to 1.0. A standard deviation of more than one implies a significant difference in respondents.

A result of the analysis is presented in table 4.4. According to the results of the study, the respondents indicated high performance rate of the company when collaborating with key suppliers, with a mean score ranged 3.1 to 4.0. There were no significant differences in the respondents' responses.

The study determined that the performance rate of the company in collaboration with key suppliers led to high profit margin, increased sells, expanded company growth, commanded significant market share and increased customer loyalty for products.

Table 4.4: Mean score for information sharing in the performance of Del Monte

	N	Mean	Std. Dev.	Rating
Profit margin is very high	46	3.81	0.802High	
We sell our products at high margin	46	3.79	0.811High	
We have expanded company growth	46	3.70	0.612High	
We command a significant share				
of the market	46	3.53	0.763High	
Customers are very loyal to our	46	3.16	0.871	High
Products				
Valid N(list wise)	46			



CONCLUSIONS AND RECOMMENDATIONS

Based on the results of this study, information sharing has positive influence in the performance company. Information is shared with suppliers in various areas for example, new product developments or changes in existing products with key suppliers, information about inventory level with key suppliers, information about market and economic situations and forecasts are critically important in collaborative supply chain. Thus Del Monte Company should invest in enhancing the level of information quality to gain superior operational performance in terms of supply chain flexibility. Also, companies should share resources with key suppliers in order to leverage capabilities, to share expertise on major projects with key suppliers and to develop contingency plan for major investment with suppliers. This will increase the performance of the companies.

Collaboration is the driving force behind effective supply chain management and, as such, it is considered the ultimate core capability. Del Monte Company should invest in enhancing the level of information quality to gain superior operational performance in terms of supply chain flexibility with key stakeholders for example, suppliers and consumers. Also, companies should share resources with key suppliers like knowledge in leveraging capabilities, sharing of expertise on major projects with key suppliers and to develop contingency plan for major investment with suppliers. Through sharing of resources, the Company can increase its performance.

Lastly, the study measured buyer-supplier collaboration only from the buyer's perspective at each tier. In other words the degree to which the focal firm (buyer) collaborates with its key suppliers is only assessed through data collected from one side of the supply-chain. Results could be potentially biased, as collaboration is a concept including at least two supply chain partners. Therefore, in order to get a more comprehensive perspective on supply chain relationships information should be collected from both parties. Thus the study recommends a study to be carried out involving data collection from two sides of the supply chain. In addition, data was only collected from the Del Monte Company Ltd and might be criticized for a lack of generalizability. Therefore, the study suggests the same study to be duplicated to involve many food manufacturing firms in order to validate the findings.

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