

The Investigation of Purchasing Process and Supplier Development Practices in Manufacturing Companies: Multiple Case Studies on Food Processing Sector in Alexandria, Egypt

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Abstract

Purchasing occupies a great portion of manufacturing companies' operations and plays an important part in determining products' quality and cost. The increased dependency on suppliers has increased the need to deal with those suppliers as partners and to work on developing the capabilities and performance of suppliers. This paper aims to explore the purchasing process in food processing companies in Egypt and investigate the supplier development practices which are implemented. The purpose of this exploration is to identify the challenges that prevent companies from applying some of the supplier development practices and propose strategies for implementing these practices in the food processing sector.

Keywords

Purchasing, strategic purchasing, supplier development, food processing sector, Egypt

1. Introduction

The rapid development in business context and the continuous changes in consumer patterns are forcing companies to quickly adapt to consumer needs offering high quality products and services while simultaneously reducing costs.

One of the most important functions in manufacturing companies that can play a part in improving products' cost and quality is purchasing. Purchasing is a big business; in most industries the cost of raw materials and component parts constitutes the main cost of a product, such that in some cases it can account for up to 70% (Van Weele, 2009). Purchasing has now developed and it is no longer viewed as an operational function. In many companies, strategic purchasing is now seen as key to competitiveness.

The difference between traditional purchasing and strategic purchasing lies in the ability of the company and the purchasing department to align the purchasing strategy with the overall corporate planning and foster the integration internally within the organization and externally with suppliers (Chen et al., 2004). Supplier integration is considered a very important aspect of strategic purchasing; it measures supplier performance and focus on implementing improvements.

One of the most important supplier integration practices is supplier development. Plenty of research has indicated the importance of supplier development and that managing supplier development activities can help many firms to meet supply needs and generate favorable results. Therefore, Purchasing managers in an organization are obliged to safeguard their supplier relationships as carefully as their customer relationships for greater efficiency and effectiveness particularly as the success of the organization is linked in part to its supply partnership (Pressey et al., 2007).

Governments also can play a role in initiating and managing supplier development programs; this was the case in Egypt. The Egyptian government has initiated a program for developing local suppliers managed by the Industrial Modernization Center (IMC) in order to elevate suppliers' capabilities to be able to compete with global suppliers and win contracts with multinationals. The IMC provide suppliers with training and consultation after analyzing the gaps and evaluating their performance until they reach the international standards. However, the program focused only on automotive and electrical sectors (IMC, 2014).

The food processing industry in Egypt is growing at a pace of 25% annually and it's expected to be increased over the upcoming years (The Arab African Conferences and Exhibitions, 2014). Food industries are one of the few industries which are dependent on their supply chains due to the new trends, the need to comply to regulatory structure to ensure their products and even the supplier's products are safe, the fast pace globalization and increased competitive pressures. Therefore, food processing industry cannot survive unless they recognize that the supply chain collaboration is a core strategy, support supplier management and continuously follow up and monitor their performance (MPI, 2009).

Therefore, this paper aims at exploring the current situation in food processing sector in Alexandria, Egypt through investigating three large scale companies representing three different types of ownerships, public, private and multinational. The purpose of this exploration is to understand the challenges faced by companies in implementing supplier development in order to propose recommendation to the companies and the IMC to encourage the implementation of supplier development practices in the food processing sector.

2. Literature Review

2.1. Purchasing

Purchasing has long been thought of as the management of firm's input i.e. raw materials, services and sub-assemblies, into the organization (Cousins and Spekman 2003). It was the purchasing responsibility to acquire such resources from approved sources of supply conforming to the required quality levels and delivery schedules in addition to making sure that this happens on time, to the required quality levels and at the cheapest price (Cousins and Spekman, 2003).

Van Weele (2009) defined purchasing as:

"The management of a company external resources in such a way that the supply of all goods, services, capabilities and knowledge which are necessary for running, maintaining and managing the company's primary and support activities is secured at the most favorable conditions."

Another comprehensive definition was provided by Van Weele (2010) which defined purchasing as "The design, initiation, control and evaluation of activities within and between organizations aimed at obtaining inputs from supplier's at the most favorable conditions"

Van Weele (2009) provided a very comprehensible purchasing processes model and this process will be the basis of the analysis in this study. Figure 1 represents the purchasing process identified by Van Weele (2009).

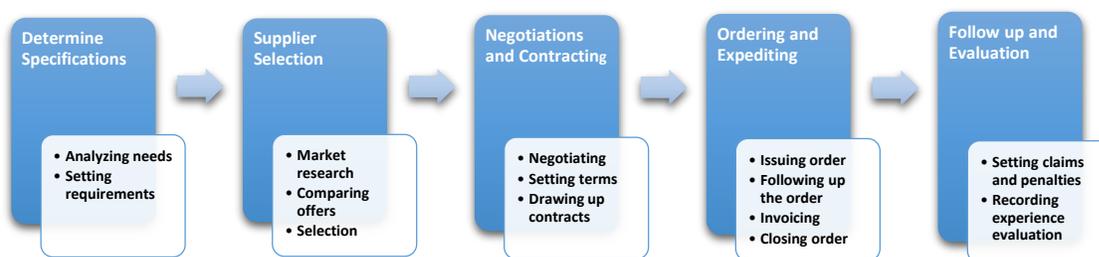


Figure 1: Purchasing Process

2.2. Supplier Development

Watts and Hahn (1993) as cited in Sharma (2013) refer to supplier development as "A long-term cooperative effort between a buying firm and its suppliers to upgrade the supplier's technical, quality, delivery and cost capabilities and to foster ongoing improvements".

Krause (1999) cited in Chavhan (2012) defined supplier development as “any effort by a buying firm to improve a supplier’s performance and/or capabilities to meet the buying firm’s short- and/or long-term supply needs”.

Chavhan et al. (2012) defined supplier development as " A long-term cooperative strategy initiated by a buying organization to enhance a supplier's performance and/or capabilities so that a supplier is able to meet the buying organization's supply needs in more effective and reliable way which will give additional competitive advantage to buyer to become more competitive in market”.

From these definitions it can be concluded that supplier development is a long term set of activities that take place between a buying firm and its suppliers, initiated to improve supplier's overall performance in order to grant the buying firm a competitive advantage in the market.

Supplier development program has two objectives. The first is to reduce the problems of suppliers by making immediate changes in their operations and the second is to increase the supplier's capabilities in order to be able to undertake their own improvements (Chavhan et al., 2012).

Hales and Arumugam (2012) stated the key elements of an effective supplier development program which are:

- Establishing, defining, and governing the relationship.
- Observing, monitoring, improving, and sustaining operations.
- Transferring technology and lending financial support.
- Training management and the workforce.
- Enforcing environmental and social compliance.
- Identifying and mitigating all sources of risk.

Sanchez et al. (2005) classified supplier development activities into 3 parts on the basis of buyer's resource involvement parameters like personal, capital and time. (Chavhan et al., 2012).

Table 1: Supplier Development Activities

Basic supplier development	Moderate supplier development	Advanced supplier development
<ul style="list-style-type: none"> • Focus on supplier qualification 	<ul style="list-style-type: none"> • Visiting supplier's plant 	<ul style="list-style-type: none"> • Training to suppliers
<ul style="list-style-type: none"> • Evaluation of supplier's performance and sending feedback 	<ul style="list-style-type: none"> • Awards and approval of supplier's performance improvements. 	<ul style="list-style-type: none"> • Collaboration with supplier
<ul style="list-style-type: none"> • Limited number of suppliers 	<ul style="list-style-type: none"> • Collaboration with supplier on materials improvement 	<ul style="list-style-type: none"> • Supplier's involvement in new product development
<ul style="list-style-type: none"> • Parts standardization 	<ul style="list-style-type: none"> • Supplier certification 	<ul style="list-style-type: none"> • Intensive information exchange with suppliers

Source: (Chavhan et al., 2012)

Wagner (2010) divided supplier development program into direct and indirect supplier development program. The indirect supplier development involves using communication to achieve performance improvements on the side of the supplier while the direct supplier development program is about the dedication of the buyer firm's human resources and capital to solve supplier's existing problems. Indirect supplier development improves the supplier's product and delivery performance and direct supplier development leads to improving the capabilities of the supplier (Chavhan et al., 2012). Table 2 displays supplier development practices as recorded in the literature.

Table 2: Supplier Development Practices

Author	Year	Supplier Development Practice
Giunipero	1990	Future business promise
Krause and Ellram	1997	Effective two way communication
Krause and Ellram	1997	Evaluation
Krause and Ellram	1997	Procurement from alternative sources
Krause	1999	Certification
Krause et al.	2000	Recognition plus reward
Forker and Stannack	2000	Technical support
Krause et al.	2000	Training plus education
Humphreys et al.	2004	Supplier's site visits by buyer
Humphreys et al.	2004	Supplying capital and equipment
Wagner	2006	
Sánchez-Rodríguez et al.	2005	Collaboration to improve parts and substances
Sánchez-Rodríguez et al.	2005	Involvement for product development
Wagner	2006	Support for entry to new market

Source: (Rajput and Abu Bakar, 2012)

3. Research Methodology

Number of studies analyzed the effect of supplier development on purchasing performance but few studies explained supplier development practices and how to create a supporting environment for their implementation especially in Egypt. This paper is a qualitative research where multiple case studies is implemented as the main research method, the unit of analysis is organizations. Primary data were collected through semi structured interviews conducted with purchasing executives in the case companies while secondary data were collected through books, online references and specialized journals in purchasing and supply management.

Three food processing companies following different ownership types operating in Alexandria city were selected. The criteria for selecting the sample are:

- Company size: large sized companies employing more than 250 employees, other company size criteria could have been chosen however there was a difficulty in obtaining information about the amount of sales or market share of all of the case companies. At the same time, number of employees was used as a sampling criterion in the literature of purchasing management and supplier development by Sanchez (2009) and Humphreys et al. (2004).
- Location: Alexandria city was selected due to accessibility reasons

Table 3 provides a brief description of the companies for the purpose of understanding their scope of operations.

Table 3: Case Companies

Company	Type of ownership	Description
Edfina	Public	A large size public food enterprise, producing approximately 2,282 tons/year of frozen vegetables, juice, and fruit nectar, canned food such as jam, tomato paste and legumes for the local market and for export (50%).
Alexandria for Confectioneries and Chocolate (Corona)	Private	A food processing company established in 1919, it is specialized in producing confectioneries and chocolate.
Unilever	Multinational	A leading fast moving consumer goods (FMCGs) company all over the world. With more than 400 brands focused on health and wellbeing, no company touches so many people's lives in so many different ways.

4. Research Analysis And Findings:

The following section represents the data collection and analysis, each company is analyzed separately and then a cross case comparison is held to highlight the similarities and differences between the three cases.

4.1. Edfina for preserved foods

Edfina's purchasing department is a passive department as it waits for suppliers to come and offer their products; the department does not exert efforts in seeking suppliers with the needed product and specification. Moreover, Edfina does not possess any type of relationship or integration with their suppliers. The following is the analysis of the purchasing process and supplier integration in Edfina. Edfina's purchasing process matches the process identified by Van Weele (2009). Quality is the most important specification when it comes to the sourcing of agricultural crops. However, both quality and budget specifications are taken into consideration when sourcing packaging materials and equipment's spare parts.

The company owns a list of registered suppliers ready to do business with the company depending on the type of process whether it was open or closed tender or direct order; this is determined by the monetary value of the materials needed. The company also deals with unregistered suppliers in case of direct orders.

The company signs purchasing contract with their suppliers after they provide the best offer in case of open and limited tenders. In case of direct purchases negotiations are done until reaching the best deal and the purchase is done on the spot.

The company is not using any electronic system to manage its ordering process; it receives information from the warehousing department about the materials needed for production. The lack of e- system leads to the lack of coordination between different departments and within the purchasing department itself, it also leads to poor linkage with suppliers and a result order processing operations will be slower and cases of miscommunications with suppliers will arise.

Edfina has a major problem which is the lack of concrete performance measurements for evaluating supplier. The main reason that might lead to removing the supplier from the supplier's list is tax evasion. This is not considered a main and strong reason for excluding suppliers; other reasons should be taken into consideration as not conforming to quality standards and repetitive late deliveries.

Investigating the purchasing process unveiled the unawareness of the supplier development concept and its practices. The company is employing purchasing as a "take an order unit", it is just responsible for receiving the requirements without exercising any type of co-ordination and integration with their suppliers. This strategy has a lot of disadvantages as the company will have to spend sums of money for expediting order and will exert more efforts to inspect the quality of the received items. The absence of supplier development practices including sharing with key suppliers the process of new product development might lead to more difficulties in improving product quality.

4.2. Alexandria for Confectioneries and Chocolates (Corona)

Corona operates a passive purchasing department due to the lack of long term relationship with their suppliers. The following is the analysis of the purchasing process and supplier integration within Corona. Corona starts their purchasing process by determining specifications; they focus on the quality, logistics specifications and the target budget. Supplier selection is restricted to a very limited pool of suppliers due to the company's daily purchasing strategy and the inherited debt problems from before the privatization of the company which discourage suppliers from dealing with the company. Therefore there is a limited pool of suppliers that Corona deals with. When it comes to global suppliers the company changed the source of their suppliers from Europe to China in order to take advantage of better prices while trying to maintain the same level of quality.

Another problem arising for the short term strategy implemented by the company is the tendency towards short terms contract as suppliers are avoiding entering into long term contract with the company which jeopardize the company to huge risk of the non-availability of stocks when needed. The ordering process in Corona integrates the sales, warehousing, supply chain and production together through using MRP system. The MRP system allows the company to balance the level of inventory in the warehouses with the orders they are receiving. It also helps the company in reducing their inventory levels and at the same time enables them to start their production on time as they are operating on a short term ordering basis.

Corona is adopting the commonly used performance indicators which are on time delivery, responsiveness, meeting quality standards and payment terms. Supplier development practices are limited to plant visit to suppliers whether before dealing with the suppliers or the frequent visits undertaken throughout the period of contracting. The company is not utilizing the expertise of their suppliers in product development initiatives, this is depriving the company from the opportunity of increasing the success of new products, improving financial performance and elevating their purchasing into a strategic functions.

4.3. Unilever:

Unilever purchasing process matches the process identified by Van Weele (2009). Unilever recognized that the major challenges come from places which they least control at the stage of sourcing their materials. Therefore, the company started building relationships with their suppliers in order to maintain sustainability and improve performance.

The company is adopting a strategic relationship with its suppliers through launching supplier development and partnership programs. Despite the strong relationship with suppliers, the company is keeping stocks in hand covering 24 days of production in order to avoid any types of risks as it understands well that it is challenging to apply a global mindset on local levels.

Unilever is using an Enterprise Resource Planning (ERP) system in order to integrate different business functions within the company; the system also enables the company to manage its supplier relationships. Based on the information collected from the interview, the company succeeded in operating the purchasing process strategically and managed to control its relationship with their suppliers and work with them as partners. Establishing this kind of relationship with supplier has helped Unilever to reduce the percentage of late deliveries and the percentage of received defective materials. Unilever is working on reducing its supplier base in order to be able to build stronger relations with fewer and trustworthy suppliers.

4.4. Cross case analysis

The following table shows a comparison between the case companies. “Yes” means that the company implements the element stated, “No” means that the element was not implemented.

Table 4: Comparison between the purchasing processes in the three companies

Process	Corona	Edfina	Unilever
Determine specification			
Quality specification	Yes	Yes	Yes
Logistics specification	Yes	Yes	Yes
Maintenance specifications	No	Yes	Yes
Legal and environmental requirements	Yes	Yes	Yes
Target budget	Yes	Yes	Yes
Select supplier			
Determining method of subcontracting	Yes	Yes	Yes
Preliminary qualification of supplier and drawing up bidders list	Yes	Yes	Yes
Request for quotation	Yes	Yes	Yes
Select best supplier	Yes	Yes	Yes
Negotiations and Contracting	Common Contract	Common Contract	Global Contract Local Contract
Ordering and expediting	MRP	No e-systems	SAP
Follow up and evaluation	Yes	Yes	Yes

The following table is a comparison between the three companies in terms of adopting supplier development practices.

Table 5: Supplier development practices in the case companies

SD practices	Corona	Edfina	Unilever
Effective two way communication	✓	X	✓
Evaluation	✓	X	✓
Certification	X	X	✓
Recognition plus reward	X	X	✓
Suppliers' site visits by buyers	✓	X	✓
Training plus education	X	X	✓
Technical support	X	X	✓
Supplying capital and equipment	X	X	X
Collaboration to improve parts and substances	X	X	✓
Involvement for product development	X	X	✓
Support for entry to new market	X	X	✓
Procurement from alternative sources	X	X	✓
Future business promise	X	X	✓

5. Conclusions and Recommendations

Purchasing is a very crucial activity to manufacturing companies; it is a core activity and the one responsible for securing the flow of the materials and enabling production.

With supply chains becoming more complex and global, companies should pay more attention to align their purchasing strategy to the firms overall strategy in order to become more efficient and effective in doing their business.

Buyers and suppliers should view the supplier development as a win- win process in order to take advantage of all its results. The following framework for initiating a supplier development program is recommended, this framework was first developed by Handfield et al. (2000) after scanning supplier-development strategies used in more than sixty organizations (Chavhan et al., 2012), the model consisted of seven steps, figure 2 is a modified model to suit the situation in the case companies.

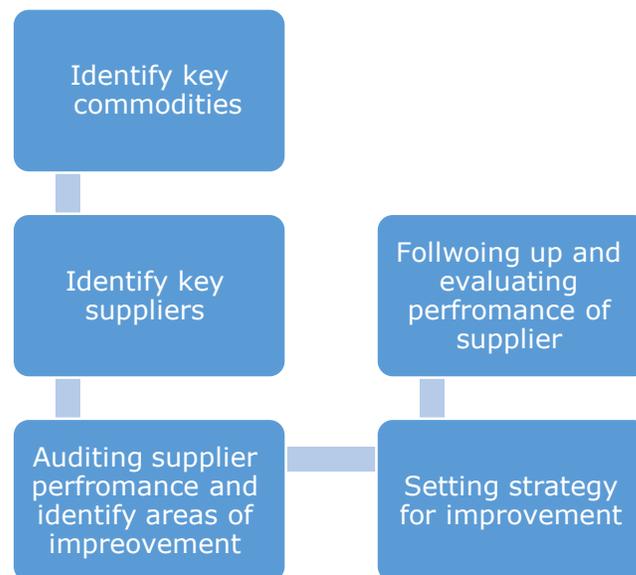


Figure 2: Recommended Supplier Development Process for the case companies

Companies under investigation were found to be carrying out an ideal purchasing process which matches the process identified by Van Weele (2009) and which is used as the basis for the analysis in this study, the purchasing process started with determining high standard specifications, supplier selection, negotiating and contracting, ordering and expediting and ending with following up suppliers but this was not the case when it comes to strategic purchasing practices and managing relationships with their suppliers.

However, it was noticed that supplier development practices do not exist in the public owned company and limited practices are found in the private owned sector unlike the multinational sector which is fully implementing supplier development programs. Thus, a question was raised which is what are the challenges and difficulties which discourage companies from adopting supplier development practices and programs?

The following are the challenges as determined by the interviewees from the three companies:

- Tying buyer and suppliers' objectives together.
- Sharing information with suppliers: is a very important concern, as there is a lack of trust between the company and some suppliers.
- Lack of commitment from suppliers as they are not aware of the benefits of these practices for their businesses.

The following are recommendations to buyer companies to overcome the challenges preventing companies from applying supplier development.

- Narrow down the list of suppliers and identify key suppliers.
- Aware suppliers of the importance of being a part of a strategic partnership and supplier development program.
- Develop written agreements with suppliers to ensure the confidentiality of the information shared between the company and the supplier.
- Granting rewards to suppliers in order to attract them to be a part of supplier development programs.

The following recommendations are directed to the IMC in order to expand the awareness and the adoption of supplier development programs:

- Supplier developing efforts should expand to the suppliers of the food processing sector for being one of the most operating sectors as indicated by the IMC.
- The IMC should cooperate with manufacturing companies in providing mutual training programs for their current suppliers.
- The IMC should direct manufacturing companies to the importance of applying supplier development practices with their current suppliers.

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Biography

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