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Relationship between logistics cost and sales: economy of scales perspectives

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ABSTRACT

The objective of this study is two fold. First, the present study seek to examine the relationship between logistics cost and sales. Second, this relationship is achieved economies of scales or not. The study is based on secondary data of top ten food companies during the period of 2008-09. The result reveals that Indus foods products limited has received highest sales growth during this period due to less logistic costs. However, there is some unusual trend has been seen in other firm's logistic costs and sales perspectives. Thus, the study concluded that logistics cost has a strategic importance in accomplishing companies long term goals.

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Introduction

In this era of globalization, it has become very difficult for the businesses to remain isolated from the global business environment. Companies are looking for new innovative processes and technologies in their globalization of production and markets to reduce costs and enhance the quality of its output. But their major emphasis is to achieve economies of scale by reducing the fixed cost through spreading it over as large an output as possible. The importance of strategic operations like logistics and procurement in achieving scale economies is normally neglected by businesses due to certain factors like cost, capital, infrastructure, size etc. Now the question is what are global operations and logistics. Actually, it is the process of planning, implementing and controlling the flow and storage of raw material, in-process inventory, finished goods and related information from the point of origin and the point of consumption. In other words, the activities that must occur between point and time of production and the point and the time of purchase of the product are known as operations and logistics. Logistics functions can be divided into five broad area, facility location, transportation, inventory, and communication and material movement (Bowersox, 1989). On the other hand, procurement can be defined as the purchase of merchandise or services at the optimum possible total cost in the correct amount and quality. These goods and services are also purchase at the correct time and location for the express gain or use of government, company, business, or individuals by signing a contract. On the other way around, it is the process of acquisition of goods or services required as raw material (Direct procurement) or for operational purposes (indirect procurement).

Logistics strategies should be integrated with production, marketing and corporate strategies (Lan Londe and Masters, 1994). Logistics planning should also be integrated with operations and planning (Fawcett and Fawcett, 1995). Integrating logistics and other functional areas will bring about the full potential of companies' value added activities and able

them to gain significant competitive advantage over their competitors (Richardson, 1995). Integration will also bring about a reduction in operational costs and an improvement in customer service (Christopher, 1989). Many researchers have concluded that industries are outsourcing logistics which results cost saving, and hold a competitive edge. Lieb et al. (1993) reported that some firms have reduced to 30 to 40 percent of their logistics cost by outsourcing their logistics and are also expanding globally rapidly.

Fawcett and Fawcett (1995) concluded that effective outsourcing of logistics functions results in increasing customer satisfaction in terms of time, place and form utilities, plus outsourcing logistics upshot economies of scale, hence overall makes a powerful competitive edge. Maltz and Ellram (1997) opines that the outsourcing of processes allow firms not only to streamline their flow of goods and information in their supply chains, but also in achieving scales economy associated with asset ownership, the monitoring of performance, and the hiring, management, and training of personnel. In short companies outsource non-core activities that generate strategic subsystems. Firms outsource activities in clusters to different firms, which provide opportunity of reducing cost, to have highly specialized operational skills, processes and technology which overall enhances quality of the product or service firm is producing.

Transaction costs play an important role in the organization of procurement regimes. While most attention is usually given to transport costs, other aspects related to information exchange and trust relationships between producers and supermarkets in fact deserve far more attention (Ruben et al., 2003; Dorward, 2001). Similarly, PSA delivery will be easier to establish when traded volumes become larger, enabling to spread out fixed investments over more transactions and recover the costs over a longer period (White, 2000). The break-even point comes closer when changes in opportunistic behavior that are expected under PSA procurement lead to a substantial reduction in screening

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and monitoring costs. North (1990) distinguished between three main categories of transaction costs:

- i) Information and search of partners
- ii) Screening and monitoring and
- iii) Negotiation and enforcement of contracts.

Wholesale purchase and preferred-supplier arrangements can be characterized according to their transaction cost and supply management requirements in terms of scale and investments.

Definitions of e-procurement vary across literature in the field. E-procurement has been defined as the use of information technologies to facilitate B2B purchase transactions for materials and services (Wu et al., 2007). In summary, and as reported by Neef (2001), direct procurement accounted for fewer purchasing transactions (between 20 per cent and 40 per cent in manufacturing companies) but could account for up to 60 per cent of a manufacturing firm's total procurement expenditure. There is potential for organization to realize numerous benefits from e-procurement implementation. Cost savings can be achieved where buyers report an average reduction in purchase price of 17 per cent (Bartezzaghi and Ronchi, 2005). An interesting point is made by Barratt and Rosdahl (2002) who claim that the internet actually reduces maverick buying. Prices are also lowered through aggregate buying, which allows multiple buyers from one organization to buy as one customer and makes it easier to monitor expenditure within an organization (Barratt and Rosdahl, 2002). Fundamentally Minahan (2001) has cited the reduction of administrative costs by as much as 73 per cent and the reduction of inventory costs by as much as 50 per cent.

In this study, the major objective is to establish a relationship between efficient logistics and procurement strategies with economies of scale. The paper is organized as follows: after introduction which is provided in Section 1, methodological framework is explained in Section 2. Results are shown in Section 3. Final section concludes the study.

Research Methodology

The study is based on secondary data of top ten growing companies in Pakistan between the years 2008-09 which is listed in Karachi Stock Exchange.

The major objective is to observe logistics cost and their sales. According to the researches, if 1 % increases in logistics cost, it is decreased by 5 % of companies sales. The reason behind is that when Logistics cost decreases, company achieves economy of scales, i.e. Overall cost of the product decreases. The company can offer its products in low prices which results increase in sales. Based on the objectives, the study seeks following hypothesis i.e.,

H1: logistics cost is inversely proportional to sales.

H2: Logistics has strategic importance in working of an Organization.

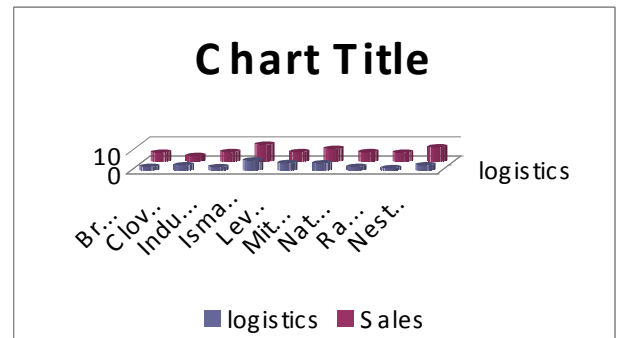
Research Findings

The result shows that when logistics cost decreases, it has a positive impact on the company's sales and vice versa. This was due to achievement of scale economies through efficient logistics and procurement strategies.

Table 1 show that Indus food products limited decreases their logistic costs 1 percent and they enjoy the highest sales up to 3.27 percent. This is maximum sales achievement among the companies which are taken in this study. Second company is Nestle Milk Pak Ltd which received 2.62 percent growth and in third place, Brook Bond limited received 2.4 percent sales

growth during the year 2008-09. The overall trend shows in Figure 1.

Figure 1: Logistics Vs Sales



Conclusion

The objective of this study is to examine the relationship between logistics cost and sales. The result reveals that logistics cost and sales are inversely proportional to each others. In developing countries logistics cost is usually high and companies of these countries can not increase their sales by reducing logistics cost. Couple of companies in our study had shown the trend of increase in sales by reducing their logistics cost. Brook bond ltd received highest sales growth up to 3% when it increases their logistics cost up to one percent. Logistics cost has a strategic importance in accomplishing companies long tem goals. The study further observes the trend that how logistics cost affect sales, but few companies have shown direct relationship between logistics cost and sales. What we failed to do in this study is sought out that how much capital company is investing in its growth.

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Table 1: Growth of Logistics Cost and Sales of Company during 2008-2009

Company	Percentage Growth of Logistics cost (%)	Percentage growth of sales (%)
Brooke bond Pak limited	2.1	4.8
Clover Pakistan limited	2.8	3.0
Indus foods products limited	1.8	5.9
Ismail industries limited	5.3	8.9
Lever brothers Pak limited	3.9	5.1
Mitchell's Food Farms limited	3.9	6.8
National foods limited	1.9	5.0
Rafhan Maize Products Company limited	1.3	4.8
Nestle Milk Pak limited	2.9	7.6
Shezan International limited	2.4	5.1