

# Relationship between financial performance and logistics performance



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Traditionally finance and logistics are thought off as the two organization functions which have always found themselves on opposite sides of each other. On one hand the logistics wants to expand the business by giving more credit to their customers and also by holding inventory to serve the customer better while finance is seen as the controlling function which does not believe in blocking the cash through credit and inventory and in speeding up the recovery process all the time. Customers are often caught in situations which eventually affect the company's performance.

Financial performance of a company is dependent on its cash management and profitability. Cash management is very critical for the survival of the company, there at times when company is performing well in term of sales and services but fail to generate cash effectively which often results in unfavorable situations for the company. In order to do well financially the company must have enough sales to cover up the running expenses and fixed cost and also a constant and growing return on the investment.

Logistics performance of a company is dependent on low inventories, delivery quality and delivery time etc. Logistics was not long before considered as a sub function to marketing where the marketing department forecasts the sales unit in a period and the sales force set about their ways to achieve it. Logistics was primarily doing the procurement, warehousing and transporting of the goods. The horizon of logistics has become a lot wider with the changing scope and emphasis on the supply chain management. Now the logistics management is seen as complete delivery of goods from one end to the other.

## **Shipping Industry**

International shipping industry carries around 90% of the world trade. The concepts of import and export of goods and free trade are not a possibility without the contribution of the international shipping industry.

Shipping and mercantile industry continues to facilitate the people of the world by bringing benefits to the businesses around the world by giving them top class services and unmatched freight costs. The performance and efficiency of the shipping industry has increased the level of trade between the countries by bringing an economic turn around which has improved the economic conditions of many countries around the world.

The fleet of ships that are assisting in international trade is around 50, 000 merchant ships which are used to transport cargo from one corner of the world to the other. 150 countries on the globe are using them; the fleet is ably manned by over a million dedicated seafarers representing almost every nation in the world.

The shipping and mercantile industry in Pakistan was blossoming till 1974 when the competition between public and private sector was ended by nationalization of all industries. The old and traditional players vanished from the scene after that and soon the government had to overturn its decision but the faith of investors was faded by then. The late 90's and early 2000's saw the revival of the sector by the new private investment policy which gave many incentives to the private investors in the country.

Shipping is one of the worlds most expensive and capital intrinsic sector which requires heavy investment in assets, a country like Pakistan which is <https://assignbuster.com/relationship-between-financial-performance-and-logistics-performance/>

its developing state cannot rely alone on the Government sector for this as the Government has different developmental priorities as well. In the light of this the government has offered incentives to the private sector to help its cause in this area. The government has come up with a policy from a joint collaboration of both public and private sector along with all the stakeholders to attract the investment in this important sector by giving incentives, making sound and consistent policies and assuring regulations and procedures to gain the confidence of the investors. This policy is called the merchant shipping policy which unlike the previous policies did cater for the issues of all the stake holders in this vital field. This policy is likely to improve the gaps and will encourage a sound flow of foreign trade by giving access to the international markets. The only specific regulation in this policy is for national carriers (government owned) which according to UNCTAD (United Nations Conference on Trade and Developments); ensures that Government owned cargo will be transported by the national carriers.

Pakistan currently has 3 ports which are Karachi Port, Port Qasim and the newly developed Gwadar Port. All three ports are easily accessible and have all state of art facilities to handle international cargo. The Port Qasim in Karachi can berth vessels and tankers up to 11 feet and 12 feet respectively. The private sector is widely encouraged to invest in the shipping sector as the additional facilities like shipyards, dry-docking repairs and many other are available on these ports. In order to further attract the private investors 48 licenses which give private company the right to operate shipping company in Pakistan has been given.

## **Shipping Industry's Problem**

According to a forecast by BM1 (Business Monitor International), the global container shipping industry faced a couple of very tough years including 2010 after the decline in global trade volumes in these years.

The volumes in 2010 are expected to get better; BMI used its global port container throughput indicators to check the magnitude of the recovery that lies ahead for the container sector. It used its forecasting matrix for the assumptions based on the figures of 2009 and the expected figures of 2010. The data was reviewed and evaluated on the quarter basis as shipping follows seasonal trends in its business.

BMI presented its report that using the Jebel Ali port of UAE, the region's busiest container port and a transshipment hub for other Middle East countries, as a bellwether. Jabel Ali in 2009 showed growth in container throughput of around 6% but this growth is comparatively low to the previous years where the region's busiest port reported growth of 25% and 21% for 2007 and 2008 respectively. It remains to be seen how 2010 will be unfolded but despite of comparatively low growth than the previous years Jabel Ali remained on the few ports around the world which is showing growth in container throughput.

Apart from port of Singapore which boasts the largest container throughput and is also a hub for Europe and US to Asian states; the majority of the ports elsewhere in Asia suffered at the hands of Global economic recession which has seen the factory orders being dried up from Europe and US. The consumer market recession has continued its effect from 2009 into 2010

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causing volumes to drop which has resulted in denting the hopes of revival for Asian ports.

Emerging Europe has been severely affected by this economic downturn as the global consumer markets have gone into recession. Russia is one of major emerging economy in Europe but this region with its biggest port of St Petersburg has seen a major decline in volumes in 2009. According to BMI the single port itself has seen a drop of 39% of volumes in 2009 which has also badly impacted the forecast for 2010 and sending the message across that emerging Europe remains one of the most affected areas by the Global economic recession. Russia; as a country itself saw almost 34% percent decline in all its trade alone in 2009.

Africa; a continent which has seen a considerable rise in the demand of its raw material sector such as coal, mostly exported to China but Africa still faced negative growth for the manufactured goods sector. Durban; South Africa's largest port in terms of volumes has observed an overall decline in volumes of 13.58% which reflects the overall picture of Africa.

The US, the central and focal point of Global economic recession has been under severe problems of unemployment which has dented the consumer confidence. The demand for import of manufactured goods has suffered because of this and the country's overall container facilities are also showing the same results.

The ever so emerging Latin America is also feeling the heat of the global crisis. The region two biggest ports; West coast port of Valparaiso in Chile and the Atlantic port of Santos in Brazil are both facing declines in volumes <https://assignbuster.com/relationship-between-financial-performance-and-logistics-performance/>

in 2009. The Chilean port has a downturn of volume of around 14% where as the Brazilian port is heading downwards by around 24% which is mainly due to the economic conditions prevalent in both the countries. Brazilian economy which is based on consumer goods was more skeptical to the crisis than the Chilean one.

According to BMI 2010 will see recovery in volumes in the last two quarters but there will be scrapping but not at the same pace as 2009. It also says the global business owners will show interest in the reclaiming their lost business in the past one and a half hour and the vessels will once again start making money for their companies.

### **Significance of Logistics in Supply Chain**

According to de Kluyver and Pearce (2006, p. 4), the ultimate goal of strategy is “ long-term, sustainable superior performance.” Such superior performance now depends on the ability of a manufacturing organization to become a fully integrated partner within a supply chain context (Cooper et al., 1997), thus all but requiring that manufacturing organizations adopt a supply chain strategy. Such supply chain strategies focus on how both internal and external business processes can be integrated and coordinated throughout the supply chain to better serve ultimate customers and consumers while enhancing the performance of the individual supply chain members (Cohen and Roussel, 2005).

Examples of business processes that must be integrated include manufacturing, purchasing, selling, logistics, and the delivery of real-time, seamless information to all supply chain partners. Managing at the supply

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chain level requires a new focus and new ways of managing (Lambert et al., 1998). Manufacturing managers must learn to communicate, coordinate, and cooperate with supply chain partners (Gammelgaard and Larson, 2001).

For this study, I adopt the Larson and Halldorsson (2004) “unionist” perspective on the relationship between logistics and supply chain management. This perspective holds that supply chain management incorporates logistics as a key supply chain focused function (Council of Supply Chain Management Professionals, 2007).

Organizational managers are asked to focus attention and resources directly on supply chain functions such as logistics to bolster the competitiveness of the supply chains. The managers are, however, ultimately judged on the marketing and financial performance of their organizations. Does a supply chain focus lead to improved logistics performance, which, in turn, results in improved organizational performance? It is our purpose to answer that question. Building on the works of Schramm-Klein and Morschett (2006), Wisner (2003), and Bowersox et al. (2000), we theorize a logistics performance model with logistics performance as the focal construct and supply chain management strategy as antecedent and marketing performance (sales and market share growth) and financial performance (return on investment and profit growth) as consequences. Data collected from a national sample of US manufacturers are used to assess the model following a structural equation methodology.

A review of the related literature and discussion of the theorized model with incorporated hypotheses follow in the next section. The methodology



employed in the study is then presented. The results of the scale assessment and the structural equation modeling results follow.

### **Scope of study**

It has long been established that for good financial performance the company needs to perform well on the cost indicators. Logistics performance though also based on lowering cost performance indicators is always willing to penetrate the market with different techniques. This study will help develop a relation if any between these variables and the intensity of their relation as well.

### **Research Hypothesis**

Ho: There exist no relation between finance performance and logistics performance.

## **CHAPTER 2**

### **REVIEW OF THE RELATED LITERATURE**

Although logistics performance and financial performance have been widely studied, their distinct relationship has received limited empirical scrutiny, especially in the case of SMEs. In the logistics literature, it is generally assumed that outstanding logistics performance is associated with high-financial performance through low costs, high revenues and efficient and effective asset utilization (Anderson et al., 1997).

High-logistics performance is associated with efficient and reliable operations, which imply overall cost efficiency and high-asset productivity. Furthermore, short cycle times allow the firm to react rapidly to market

needs resulting in flexibility and increased ability to provide timely and innovative solutions as the distance between the firm and its customers is short. These features would allow the firm to reap increased revenue due to the superior quality related to its products or services (Ellinger et al., 2000; Lambert and Burduroglu, 2000; Lambert and Pohlen, 2001; Venkatraman and Ramanujam, 1986). Literature on supply chain management (SCM) has adopted a similar approach towards the link between operational and financial performance. At a conceptual level, the relationship between logistics and SCM has been widely debated for over a decade and no consensus on this issue yet exists. In their recent article, Larson et al. (2007) identify four conceptual perspectives to the discussion on logistics versus SCM, which cover all possible ways the two fields might be interrelated in the context of business: logistics equals re-labeling SCM, traditionalist logistics subsumes SCM, unionist logistics is subsumed by SCM, or SCM and logistics overlap partially intersection.

For the purposes of this study the terms logistics and SCM are used as synonymous concepts as the approach and measures used in performance studies are highly similar in these two fields. Furthermore, the Finnish term meaning “logistics” was used in the survey. This term is widely used in Finland in business and covers both logistics and SCM issues.

Given the importance of the issue, surprisingly limited empirical affirmation of a relationship between financial and logistics performance has been presented. For example, Schramm-Klein and Morschett (2006) found logistics performance, measured in terms of logistics costs and quality, to have a high-positive influence on the financial performance of retail firms. Similarly, <https://assignbuster.com/relationship-between-financial-performance-and-logistics-performance/>

the survey results of a study examining large manufacturing firms in Taiwan (Shang and Marlow, 2005) support the notion of a positive relationship between logistics and financial performance.

Overall, a more typical approach in contemporary logistics studies focusing on performance is to examine the relationship between specific logistics or SCM practices or so-called logistics capabilities (Bowersox et al., 1999; Olavarrieta and Ellinger, 1997; Shang and Marlow, 2005) and financial performance based on a resource-based argumentation. For example, Sanders and Premus (2005), Wu et al. (2006) and Yusuf et al. (2004) have focused on the relationship between logistics management practices and financial performance arguing that factors such as firm IT capability, internal and external collaboration, and supply chain integration improve firms' financial performance. Also a number of studies have focused on the distinct relationship between logistics management-related factors and logistics performance. For example, the study by Closs et al. (2005) finds that flexible logistics programs and internal collaboration have a positive influence on logistics performance. In contrast, the study by Stank et al. (2001) reports the relationship between external collaboration and logistics performance to be insignificant.

In the outlined body of literature, certain limitations relate to the nature and scope of completed studies, which specifically address the distinct relationship between logistics and financial performance. In these studies both logistics and financial performance are typically measured using only self-reported perpetual indicators and single respondents, which capture the impression of one single person at one specific point in time. Furthermore, as <https://assignbuster.com/relationship-between-financial-performance-and-logistics-performance/>

noted by Chow et al. (1994), few logistics studies on performance adequately capture the multiplicity of goals in order to evaluate both logistics and financial performance in a holistic manner.

Also a number of consultancy-type studies have been completed in this field of investigation (European Logistics Association and A. T. Kearney, 2004; World Global Logistics Research Team, Michigan State University, 1995). These studies have commonly arrived at the conclusion that excellence in logistics is directly connected with outstanding financial performance (D'Avanzo et al., 2003). For example, in a recent study of Southeast Asian firms, Kremers et al. (2005) examine the relationship between supply chain operations reference model metrics and financial metrics, both of which are measured using "hard" self-reported operational figures. The study findings give indications of a weak link between financial and supply chain performance. However, a common drawback of consultancy-type studies is that they do not describe the applied methodology in detail, which makes the assessment of results rather difficult.

Another typical feature for studies in this field, especially in terms of consultancy-type studies, is that respondent firms are mainly relative large firms. These firms can be assumed to have rather advanced know-how relating to how logistics should be managed due to their greater possibility of dedicating resources to such issues compared to SMEs (Kadiyali et al., 2000; Wilkinson, 1996). In addition, large firms tend to possess considerable bargaining power vis-à-vis their suppliers and/or customers. This enables large firms to negotiate better terms and leaves more room for maneuvering

in many logistics, marketing and purchasing operations compared to SMEs (Crook and Combs, 2007; Emerson, 1962; Stigler, 1968).

It might also be assumed that outstanding logistics performance would also have a positive effect on stock prices in addition to direct effects relating to reduced costs and enhanced revenues (Christopher and Ryals, 1999; Walters, 1999). Recent studies have, for example, provided evidence suggesting that markets react to the adoption of SCM enhancement tools and technologies in a positive manner (Filbeck et al., 2005) and to sudden drops in supply chain performance in a negative manner (Singhal and Hendricks, 2002).

The linkage between logistics performance, related management practices and overall financial performance is difficult to detect in large corporations as logistics practices applied in separate organizational units may differ widely. Thus, a consolidated financial report is typically too rough a measure for a meaningful analysis. This is less of a problem when examining SMEs. SMEs tend to have common characteristics which distinguish them from larger firms (Gartner, 1985). These features pose both advantages (e. g. increased flexibility) and limitations (e. g. limited resources, opportunities for benefiting from economies of scale) to the operation of small firms vis- a -vis their larger competitors. Overall, there has been limited logistics research specifically focused on SMEs, and thus knowledge is limited in terms of the level of logistics as well as regarding the relationship between logistics performance and financial outcomes in these firms.

In the context of the present study, logistics performance is understood to cover the dimensions of cost efficiency (Beamon, 1999; Chow et al., 1994; Closs et al., 2005; Gunasekaran et al., 2004; Lambert and Pohlen, 2001; Rosenweig et al., 2003; Schramm-Klein and Morschett, 2006; Yusuf et al., 2004), service quality (Beamon, 1999; Chow et al., 1994; Closs et al., 2005; Fawcett and Cooper, 1998; Gunasekaran et al., 2004; Lambert and Pohlen, 2001; Rosenweig et al., 2003; Schramm-Klein and Morschett, 2006; Shang and Marlow, 2005; Stank et al., 2001) as well as time-related factors (Chow et al., 1994; Closs et al., 2005; Fawcett and Cooper, 1998; Gunasekaran et al., 2004; Lambert and Pohlen, 2001; Morgan, 2004; Rosenweig et al., 2003; Schramm-Klein and Morschett, 2006; Yusuf et al., 2004), which have been commonly featured in previous studies. In terms of the relationship between logistics performance and financial outcomes, a positive relationship is presumed to prevail between the two. Resultant low costs, high revenues and efficient and effective asset utilization from high-logistics performance are assumed to reflect on the financial performance of the firm through higher profitability and productivity as well as opportunities to grow faster relative to its competitors in a certain industry

## **Research model**

Logistics and financial performance were measured by using multiple measures for both logistics and financial performance. When measuring financial performance, both growth and profitability were covered. According to Delmar (1997) and Weinzimmer et al. (1998) the growth of sales, employment, assets and market share dominate measures for growth. From these the growth was measured by: the average turnover growth rate from

2006 to 2008 (according to Pakistan accounting standard sales is not reported separately but turnover is very close to it); and the average asset growth rate from 2006 to 2008.

Market share data were not available. Since, the studied companies are not public, I could not construct a measure of added shareholder value like, e. g. Stewart (2004) did. However, it is well established that in case of small business “ profitability is best judged by net earnings per dollar of assets in a business” (Edmunds, 1979). Thus, profitability was measured by:

The average return on total assets from 2007 to 2009;

The average return on capital employed from 2007 to 2009; and

The average EBIT-per cent from 2007 to 2009

EBIT-per cent was included in order to check whether profitability behaved differently compared to asset-based measures. I also crosschecked our results by testing with other related measures derived from financial reports-based data, but regardless of the measures used, the overall conclusions remained the same.

Logistics performance was measured through two different approaches. The first approach was to ask respondents directly how they perceive their logistics performance and their competitors' logistics performance and the second one was to construct theoretical measures of the construct. The first approach yields four groups. Since, the importance of logistics is likely to increase, we have referred to companies, who perceive their own and

competitor's logistics performance to be at a relatively high level, as <https://assignbuster.com/relationship-between-financial-performance-and-logistics-performance/>

forerunners. The majority of the companies seem still to be complacent and view their own and competitors' logistics performance to be, at best, at a medium level. The group of leaders, i. e. where the company's own performance is seen high and better than that of competitors, is relative small.

The second approach was to identify theoretical dimensions of logistics performance. Based on literature, they are as follows: service level characterizing the service quality, operational metrics characterizing the time-based logistics performance (smaller values refer to better performance), and logistics costs characterizing cost efficiency (smaller values refer to better performance).

## **Variable Definitions**

### **Measuring Logistics Performance**

Improving logistics performance has become an important development policy objective. The performance of customs, trade-related infrastructure, inland transit, logistics services, information systems and port efficiency are all critical to whether countries can trade goods and services on time and at low cost. This trade competitiveness is central to whether countries can harness globalization's new opportunities for development. International logistics encompasses an array of actions ranging from consolidation of cargo, transportation, warehousing, and border and custom clearance to in and out-country distribution and payment systems. This sequence cannot be easily summarized in a single indicator. Nor is it easy to collect on a global basis, the information to build a performance measure. Information on time



and costs associated with some important logistics processes such as port time, time to clear customs and transport, provides a good starting point and in many cases is readily available but this information, even when complete, cannot be easily aggregated in a single consistent cross-country dataset because of essential differences in the supply chain structure among countries. Perhaps more important, many critical elements for good logistics performance such as the transparency of processes and the reliability, quality and predictability of services cannot be captured from the information available on time and costs. To address this, the World Bank, with its professional and academic partners, has produced the (first) Logistics

Performance Index (LPI) to start closing the knowledge gap and help countries develop logistics reform programs to enable trade and enhance their competitiveness.

Complementing existing international sets of competitiveness indicators such as the World Bank's Doing Business measures and the World Economic Forum's index of Global Competitiveness, the Index of Logistics Performance and its indicators propose a comprehensive approach to supply chain performance. It provides the first in-depth cross-country assessment of the logistics gap and constraints facing countries. Given their uniqueness and significance, the LPI data have also been used extensively in many countries.

## **Financial Performance Variable Definitions**

For analysis, two different types of firm performance measures are used: accounting returns and stock market returns. Accounting returns are

measured using return on assets (ROA) and return on equity (ROE). Stock market performance is measured utilizing the total return to a common shareholder. Both types of measures are widely used in such type of studies. All financial performance data is taken from the Karachi Stock Exchange (KSE) database published by Security and Exchange Commission of Pakistan (SECP). A brief discussion of each measure follows:

Return on assets (ROA) is widely used by market analysts as a measure of firm performance, as it measures the efficiency of assets in producing income. For purposes of this analysis, we calculated ROA as after tax income with addition of interest expense, divided by average total assets. Interest expenses are added back to income because we want to know the total income generated by the firm per rupee of assets irrespective of whether equity or debt financing is used.

Return on equity (ROE) is a measure of the performance of the firm relative to shareholder investment. Since this is a measure of shareholder returns rather than overall firm profitability, interest expenses are subtracted out of income for this measure.

Total risk-adjusted return to shareholders is measured based on cash dividends paid out plus stock market share price appreciation. Returns are adjusted for stock-price variability by using the standard firm-specific "beta" calculated directly from stock prices. To the extent that risk is associated with logistics performance, controlling directly for it will tend to reduce the significance level of any results relating the effect of differences in logistics performance on firm performance.

For our purposes, stock market returns are a better measure of firm performance. First, they represent true gains to shareholders, through both dividends paid out and appreciated stock prices. In contrast, accounting returns cannot be directly realized by shareholders. Second, stock market returns are more directly comparable across firms, as they are not subject to the accounting manipulations of items such as taxes and depreciation. Finally, those who adhere to an efficient markets theory of stock prices would argue that they are a good measure of future profits. Of course, we are measuring changes in the stock prices - not their absolute levels.

Thus, market returns in this context refer to the sum of current shareholder returns (cash dividends and changes in stock prices) plus improvement in the long-run prospects of the firm.

## **CHAPTER 3**

### **RESEARCH METHOD**

#### **STATEMENT OF THE PROBLEM**

The primary problem is to find whether there is any relation between financial performance and logistics performance or not.

#### **Research Hypothesis:**

Ho: There exist no relation between finance performance and logistics performance.

## **RESEARCH METHOD**

### **Data Collection**

The dataset comprises of 8 Shipping companies that offered logistics too were surveyed with the help of a questionnaire. Logistics performance measures were derived from the survey data, and based on these values logistically top-performing firms were identified within industry. The financial performance of these firms was then examined using their financial reports.

In order to analyze the relation between logistics and financial performance, we first examine these performance constructs separately starting from financial performance measures.

### **Pre-Testing**

The instrument was pre-tested where 4 to 5 sample questionnaire were filled to predict if there were any problems with the instrument for the respondent and whether it was easy to understand and comprehend the questions or not. Through pretesting it was found that all respondents felt comfortable in responding and respondent found questionnaire interested too

### **Sampling technique and Sample size:**

Since the overall shipping industry in Pakistan that also offers the logistics services comprises of just 8 companies therefore the whole population is taken for analysis.

### **Respondents:**

The questionnaire was given to logistics manager and in some companies to CEO and their response was noted down.

## **Procedure:**

Financial performance was gauged using the company's financial where as the questionnaire was also used as a tool to find the relation between the variables.

Data through questionnaire is collected by two ways

- i) Personal meeting by taking an appointment with the respondents
- ii) By having a telephonic conference with the respondents. Respondents replied for the questions asked from them.

Questionnaire consists of twelve questions and the answers were recorded in the Likert four point scales.

Dimensions in this questionnaire are as follows:

- Efficiency of Logistics Firm
- Key ratios of Profitability
- Overall cost impact in different heads.

## **Statistical tool used**

In this research Bivariate Correlations analysis is used to test the data. The reason for using The Bivariate Correlations procedure is that it computes Pearson's correlation coefficient along with their significance levels.

Correlations measure how variables or rank orders are related. Pearson's correlation coefficient is a measure of linear association. (Multivariate data analysis, sixth edition Joseph F. Hair).

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## **CHAPTER 4**

### **RESULTS**

In terms of financial performance measures, the Pearson correlation coefficients between these measures are shown in