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RESEARCH ARTICLE

IMPACT OF OUTSOURCING AND OTHER FACTORS ON LOGISTICS PERFORMANCE IN FMCG SECTOR OF PAKISTAN

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ABSTRACT

Purpose: The purpose of the study was associated with the assessment of the effect of the different risk factors along with outsourcing on the logistics performance of the FMCG sector of Pakistan. ***Design/Methodology:*** The research design of this study was quantitative; therefore, the researcher used a survey questionnaire for the accumulation of the data from 256 respondents related to the FMCG industry of Pakistan. Therefore, the data collection method in this research was primary through close ended questionnaire. Data was analysed using Structural Equation Modelling (SEM). The variables that were taken as independent were cost reduction, product quality, product variety, supply chain integration, and outsourcing. The dependent variable of the study was logistics performance. ***Findings*:** As per the findings, the constructs of product quality and cost reduction were found to be a significant while, other variables that were product variety, supply chain integration, and outsourcing were found to have an insignificant impact on the logistics performance of FMCG sector of Pakistan. ***Research Limitations:*** The study has the following limitations;

- The study is limited to the FMCG sector
- The study is limited to the geographical bounds of Pakistan
- The sample size is limited due to limited time and budget for the study

Research Implications: The management of FMCG sector needs to work on automated systems which can reduce the cost improving the profitability. In addition, product quality can also be improved with the help of automated systems as it will reduce the likelihood of human error. ***Originality*:** This researchaddresses the research gap in the context of Pakistan's FMCG sector along with the inclusion of the variables that have been discussed in a limited scope.

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INTRODUCTION

Background of Research Study: It is a noticeable fact that with the intensification in the globalization and enhancement in the technological sectors, companies functioning in the corporate sector have instigated to adopt different channels and techniques to reduce the overall cost of production with an intention to make the investment in the different field of business (Blanchard, 2011). A study conducted by Christopher (2016) articulates that the process of adoption of a new technique and trend in the manufacturing process has turned out to be highly prevalent. In addition to this, the study further proclaims that outsourcing is regarded as one of the most significant aspect or approach which is generally applied by firms in the corporate sector to reduce the overall operational cost. It has been observed that the concept of outsourcing in the field of logistics performance in the "Fast-Moving Consumer Goods Industry" is not new as many companies have been following this format to lower the cost of production (Davis *et al.,* 2014). In the olden days, the selection of vendors was done in a different manner.

In addition to this, it is also a known fact the concept of outsourcing in the field of "Fast-Moving Consumer Goods Industry" was somehow more complicated and less productive as well. However, with the recent advancement of technology and globalization, companies in the present era have started adopting means of reducing their production costs so that it can be invested elsewhere. The extent to which companies in the Fast-Moving Consumer Goods (FMCG) Industry have started relying on it reveals that outsourcing acts as a beneficial way of attaining a competitive advantage. In the light of the study conducted by Blanchard (2011), it has been appraised that outsourcing affects the productivity level of firms and helps them to boost their performance as well. Most importantly, it plays a crucial role in reducing the production cost as well. On the other hand, it is also considered that regardless of the benefits offered by outsourcing, there are many significant factors which somehow limit the significance and reliability of the outsourcing process in "Fast-Moving Consumer Goods Industry" of Pakistan. The respective statement can be further validated by reviewing the study of Kersten (2011) in which it has been explained that outsourcing of products can in some cases result in increasing the overall

risk in terms of product quality. In addition to this, delays in production can also arise due to the outsourcing process. All of these issues are intended to negatively affect the company's performance in the "Fast-Moving Consumer Goods Industry" of Pakistan. The following research will, therefore, identify the critical impact of outsourcing on "Fast-Moving Consumer Goods Industry" of Pakistan.

Problem Statement: The main problem associated with the use of outsourcing in the "Fast-Moving Consumer Goods Industry" of Pakistan is based on the selection of the suitable vendors or outsourcing sources that could be hired or contracted to develop products and deliver it to the retailing sector. A study conducted by Sherman (2013) also approves that the wrongful selection of vendors or outside sources for outsourcing has turned out to be greatly critical due to the reason that most of the outsourcing companies are termed as less reliable and effective. In this regard, the following research focuses on how these issues and problems associated with the logistics performance can be resolved with the utilization of suitable techniques and strategies. According to the research of Bakar *et al.* (2014), the performance of the logistics is generally affected by many different factors. These factors include cost, quality, speed, dependability and flexibility. Similarly, the study also highlighted that importance of communication and environmental friendliness in improving the logistic performance. In support of this point, Pazirandeh and Jafari (2013) described environmental friendly logistics operations as significant in improving the effectiveness as well as efficiency of logistics. Furthermore, there are also some problems in logistics that relates to outsourcing of logistics functions. According to Regan and Wang (2019), some of the problems that are usually faced in the outsourcing of the logistics are the possibility of inefficient management, loss of innovative capacity, hidden costs and dependability and lack of control over third party suppliers. However, there is no agreement on the literature available on the issue that are faced in improving logistics performance especially specific to the case of Pakistan. Therefore, the study aims to address this problem to find suitable ways to resolve the logistics problems faced by the country.

Gap Analysis: The current study aims to identify the impact of logistic performance on the FMCG sector of Pakistan. The performance of logistics is influenced by a variety of different factors which have been described in different researches (Bakar *et al.,* 2014). In addition to this, there are several other researches that show the factors which effect performance of logistics. There is no consensus in the findings of the available researches and the results are contrary to each other. Somuyiwa *et al.* (2015) has argues that outsourcing is the factor that significantly impact the performance of logistics. However, this study has been opposed by Sherman (2013), who concluded that the outsourcing of logistic function is less reliable and ineffective. Similarly, Meidutė-Kavaliauskienė, Aranskis and Litvinenko (2014) have discussed that quality is the factor on which the satisfaction level of customers depends and it in turn influences the logistic performance of the company. On the contrary, Groote and Yücesan (2011) have argued that product variety is the vital aspect that positively influences the performance of logistics of an organization rather than product quality. Another conflicting study has been carried out by Yuen and Chan (2010) which stated that the service quality is the factor that impacts organizational performance rather than the product quality. The above past studies on the current topic show that there is no general agreement among the authors of the different researches on a specific point relating to logistic performance. Additionally, the researches carried out in the context of the developing countries show that one of the biggest problems in the performance of logistics in these countries is due to the infrastructure (Kavas, 2015). This study also highlights the absence of inter-modal connections. This study has also been supported by MENA Logistics (2009) study which described infrastructure as the main logistics performance issue in Pakistan. However, Rafique (2015) highlighted that uncertainties have a significant impact on the supply chain operations in Pakistan. According to the research of Charkaoui, Ouahman and Bouayad (2012) conducted on Morroco, do not show a clear picture of the factors that influence the logistic performance as all the studies have contrary findings. Moreover, these researches also have limitations as most of them were carried out in other regions than Pakistan. Pakistan's uniqueness is due to its specific demand and supply factors. Being part of developing nation, business cost reduction more as compared to quality factors, moreover, supply chain integration also seemed to be a problem however, how it affect performance in envornoment of low levels of integration is yet to be seen.

In addition to this, these researches are also not specific to the FMCG industry and also do not address the factors which are specific to the outsourcing of the logistic functions. FMCG industry is mostly equipted with latest technology and processes as well as quality human resources. Hence wheather outsourcing could be of their beinift, is yet to be seen. According to Zailani *et al.,* (2015), although the outsourcing of logistics is increasing in different organisations but there are dramatically less researches available which highlight the issues in logistic outsourcing and also the factors that have a significant impact on the outsourcing of logistic functions. Therefore, the analysis of the above past researches has made it clear that there is no consensus in the findings of these researches on the logistics performance and the literatures that are available to address the topic are highly insufficient and are also not specific to the case of FMCG sector in Pakistan. Based on this, it can be inferred that a gap exists in the available literature that addresses the logistic outsourcing and its influencing factors specific to the case of FMCG sector in Pakistan. Therefore current study is aimed at addressing the identified gap in the literature.

The identified gap is addressed by analysing the concept of logistic outsourcing in the FMCG sector in Pakistan. Furthermore, the study also contributes in filling this gap by identifying the factors that affect the logistic performance in the FMCG industry of Pakistan. This study has contributed in expanding the area of the topic under research. From the analysis of different literature, it has been found that various literature (Gilal *et al.,* 2016; Alvi, 2012; Gilal *et al.,* 2017) exists that identifies the growth and role of logistics in supply chain management of FMCG industry of Pakistan. However, there are limited study discusses the supply chain management in association with risk management or minimization practices (Choudhary and Iqbal, 2012; Tipu and Fantazy 2014). The gap for the evaluation of risk persists in the literature. Therefore, this research contributes to filling that gap and expands the area of study.

Aim and Objectives: In this concern, the following research study will focus on conducting research on the effect of outsourcing along with the risk factors which are associated with the logistics performance in FMCG sector of Pakistan.

Following are the set of objectives designed for this study:

- To understand the concept of outsourcing in the FMCG industry of Pakistan and its impact on logistic performance.
- To determine the factors that can impact the logistics performance in the FMCG industry of Pakistan
- To provide strategic recommendations for the FMCG industry of Pakistan to mitigate risk and enhance supply chain efficiency.

Research Questions" The research study addresses the following research questions

- What is the concept of outsourcing in the FMCG industry of Pakistan?
- What are the main factors that can impact the logistics performance in the FMCG industry of Pakistan?
- What are the main strategies that could be implemented by companies in the FMCG industry of Pakistan to mitigate risk and enhance supply chain efficiency?

Significance: The current study addressed the issues and problems associated to the FMCG sector of Pakistan. The study can serve as an addition in the literature available on the topic of logistic outsourcing. The literature available on the outsourcing of logistic and logistic performance is very limited (Zailani *et al.,* 2015). Therefore, this study can be of great significance in filling the literature gap. Furthermore, the study also extends the area covered by the existing literature as it has focused on the FMCG sector particular to the country of Pakistan. The study can also prove to be of benefit to the researchers who wish to explore the topic of logistic outsourcing not only in FMCG sector but also in other sectors. The researcher can either work to support the findings of this study or to contradict it. In addition, this study can also effectively improve the overall strategic approach to do outsourcing without facing the consequences identified in the problem statement. In addition, this research can also be applied by companies functioning in different fields to enhance their technique to do outsourcing. The findings of the study also hold significance for the other developing countries apart from Pakistan and the organisations of other developing countries can also carry out logistic outsourcing by adopting the strategies and techniques in consideration of the findings of this study.

LITERATURE REVIEW

This section evaluates the published research to provide an in-depth understanding of logistics and supply chain operation of FMCG in Pakistan.

Logistics: Logistics has ceased to be seen only as an economic bottleneck and has become a strategic area for business. Thus, despite its operational performance, it directly affects the entire company - as the result of customer satisfaction and financial management (Mangan, Lalwani and Lalwani, 2016). The performance indicators of logistics in FMCG include the following:

Quality of Delivery Service: It takes into consideration the time it took the cargo to reach the customer, from the time shipment was cleared for transportation.

Order cycle time: It calculates he time an order takes to complete, from the time it is entered into the system until the time it is received by the end customer. It covers the whole process. It is important to make this calculation, as delays in deliveries are not always the responsibility of the transport (Tariq *et al.,* 2013). It could be due to an item that was not available in stock, and the fault was not pointed out in the system. It could be due to the delay in the release of the documentation of the vehicle, as well as the delay in loading, among other reasons. In this way, the manager can identify bottlenecks and create actions to minimize or eliminate negative impacts.

Index of occurrences: Occurrences are recorded every time an event, which was not planned, materializes. Aman and Hopkinson, (2010) indicated that occurrence couldbe opened due to malfunctions, misplacements, exchanges and returns, for example. This is one of the indicators of performance that cannot be measured, because these occurrences because costs increase, waste of time, compromise productivity and cause rework.

Percentage of Physical Inventory: The calculation of this indicator takes into account the ratio between the number of loads that can be traced and the total number of loads that were sent in the same period.

Accuracy of transport notes: The accuracy indicator of transport notes serves to identify the quantity, the percentage of values that were issued without errors during a certain period.

Freight bill calculation: Another indicator of great impact on the logistics performance of a company is the freight bill. This indicator is the result of the sum of the total cost of freight, disregarding the operational costs. Thus, it is the sum of all payment due to the carrier (Zaman *et al.,* 2012).
Delayed delivery time: As an indicator of internal processes, the delivery delay time is an essential KPI to measure logistics efficiency and the impact of this activity on the customer relationship.

Outsourcing: There are various researched available that have been carried out on the topic of outsourcing and its impact on the performance of logistics. The competitive landscape of the current business environment has reduced the life cycle of the products as the organisations has been rapidly bringing new products in the market. It has become a great challenge for the companies to make efforts in meeting the ever changing consumer preferences and the companies resort to supply chain for the sharing of resources. Therefore, according to Sheikh and Rana (2012), the outsourcing of logistics plays a significant role in bringing efficiency in the operations of logistics and also in increasing the performance of the logistics. This study was carried out with the objective of identifying the impact of logistic outsourcing levels on the performance of the logistic service. The study was carried out

using secondary data analysis and tested theories in the area of outsourcing, impact of logistics service performance and levels of logistics activities. The findings of this study concluded that the logistic outsourcing has a positive impact on the logistic service performance. However, this is only true for the level four logistic outsourcing where the first 3 levels of logistic outsourcing activities do not have any such impact in the logistic performance. This research has carried out analysis of a considerable amount of available literature which shows the validity of its findings. However, the study does not incorporate any analysis on a particular industry. Furthermore, another research was carried out in the same area by Arif and Jawad (2018) which stated that the decision to outsource logistic operations is a strategic decision and it can have a significant impact on the performance of a company. This study was carried out with the objective of examining the influence of logistic outsourcing on the logistic performance based on the four levels of the logistic activities. This study was also carried out using the secondary data analysis of the literature available on the topic. The findings of this study supports the findings of the study discussed previously and states that the only the level four of logistics activities have an encouraging and direct impact on the performance of logistics with respect to the demand complexity. In addition to this, Kyusya (2015) carried out a research with the objective of identifying the impact of outsourcing on the performance shipping industry in Kenya. This study was carried out by primary data analysis gathered from 42 shipping companies in Kenya. The study analysed the data using descriptive statistics. The findings of the studies showed that the companies who utilised logistic outsourcing were able to increase their operational performance due to an increased focus on their core competency. The major strength of this study is that it has been carried out on a specific industry and in a specific region. Finally, Muiruri and Iravo (2015) carried out a research with the objective of finding the influence of logistic activities outsourcing on the operational performance. The study employed the case study method and studied the case of DMKL Thika branch. It used quantitative analysis on the data collected from the 45 employee of the selected case study company. The study also carried out the analysis of the literature to validate the findings of the study. The study concluded that the outsourcing of the logistics activities led the case study company to increase its productivity, effectiveness, profits and quality. All the above discuss studies display the same findings and conclude that outsourcing of logistics positively impacts the performance.

Product Variety: Product variety has also been researched by many scholars to check its impact on the performance of the logistics. The study carried out by Groote and Yucesan (2011) with the objective of identifying the impact of the product variety on the performance of logistics. The study was based on the analysis of a simple model of an integrated production0distribution system. The study showed that the expected cost of the backlogs and inventories keeps on increasing as the number of products increases. Through this study, it can be concluded that product proliferation poses a great challenge for the companies. Another study carried out by the Thonemann and Bradley (2002) examined the impact of product variety on the performance of the supply chain on a single manufacturer and multiple retailers. The study concluded that the product variety has a negative impact on the performance of the supply chain as it increases the cost. The findings of this study coincide with the findings of the previous study. Similarly, Mehrjoo and Pasek (2014) carried out a research with the objective of assessing the impact of product variety on the supply chain performance in the fashion apparel industry. This study incorporated the use of system dynamic model that helps in the observation of the relationships in the supply chain of the fashion industry with a single retailer and manufacturer. The study analysed the data of the fashion industry over the 25 years to check the effect of this variable on logistic performance. The findings of this study are also in accordance with the previous study findings that as the product variety increases the cost also increases impacting logistics performance. Furthermore, the study of Sweeney (2015) examined the impact of product variety on the operational performance of a retail firm in China. The study analysed the archival data given by the firm to the researcher. This research also validated the findings of the previous researched that the product variety negatively impacts the operational performance of the company.

Supply Chain Integration: Supply Chain integration has turned out to be an important aspect for companies as it has shown to improve performance by various studies. Kumar et al. carried out a research with the aim of analysing the impact of supply chain integration on the performance of the logistic of the company. The study was based on the analysis of the literature though which a conceptual framework was designed based on the factor of operational performance, flexibility in production, inventory turnover, logistics costs and fulfilment rate. The study was carried out in the food sector of UK. The findings of the study showed that the integration of supply chain has a positive significant impact on the performance of the supply chain. Similarly, another author Prajogo and Olhager (2012) conducted a research based on the objective of finding the impact of logistics integration on the performance of the firm. The study was conducted on the data collected from 232 Australian firms. The findings of this study also complemented the findings of the previous study by showing a positive impact of supply chain integration of performance. Moreover, Huo (2012) also carried out a research to assess the impact of the integration of supply chain on the logistic performance of the company. The researcher collected the data from 617 companies located in China and analysed the data using the structural data modelling method. The findings of the study displayed that the integration of supply chain has a direct impact on the performance of the company. Additionally, the study of Katua (2014) examines the impact of supply chain integration on the manufacturing firms in Kenya. The study was carried out on the population of 549 manufacturing firms in Kenya and employed descriptive research design. The results of the study stated that the supply chain integration led the selected companies to achieve their strategic goals and improve the coordination of the operation processes. The analysis of the above four paper show that the supply chain integration positively influences the logistic performance of the company as all the papers gave the same conclusion.

Cost Reduction: The requirements of the services of logistics have been getting increasingly arduous. The study of Bokor (2008) studies the impact of controlling logistic cost on the performance of the logistics by finding the most suitable method for controlling logistics. The analysis was carried out using secondary data analysis to assess the effectiveness of different cost controlling methods. The findings of the study

state that controlling the cost of logistics affects the logistic performance. In addition to this, Hesping (2017) conducted a study which investigated the ways of cost reduction and innovation performance. The study did an analysis on the data from 107 sourcing projects using structural equation modelling. The findings of this study complemented the previous study by establishing that cost reduction positively impact performance. Furthermore, Sorooshian, Jambulingam and Dodangeh (2013) examined a medium sized organisation in the East Asia region with the aim of assessing its logistics performance.

The study analysed the data gathered from the company as well as the data which was available online. The study concludes that the supply chain performance is one of the most vital components in the era of global competitiveness and cost reduction increases the efficiency of the logistics and makes a firm more competitive. However, the findings of this study are limited to the organisation on which the study was conducted. (Kumar *et al.,* 2017) also showed that the integration of the supply chain has a significant impact on the logistic performance of an organisation as it aligns all the supply chain processes of the organisation with the business objectives. Therefore, this variable also impacts the logistic performance within an organisation.

Product Quality: Quality of the products has become one of the most important factors for the companies that cannot be compromised to maintain long term relationships. The research of Boon-itt (2011) examined the role of supply chain and information technology in the achievement of product quality performance. The study was conducted in 111 Thai suppliers and automakers using univariate analysis. The findings of the study showed that the product quality was impacted by the supply chain integration and information technology. Similarly, another study carried out Yuen and Chan (2010) measured the effect of product and service quality on the loyalty of the customers. The study was conducted on the relationships at store and staff level of the retail industry and data was collected from customers. The study showed that the customer loyalty was directly impacted by the product quality. Furthermore, the study of Suchánek, Richter and Králová (2014) examined the impact of customer satisfaction level and product quality on business performance of the food industry. The researcher examined the satisfaction through a survey and the performance through the financial data of the companies.

The findings of this research proved to be insignificant as there was no significant relation shown between the variables. The research of Boon-itt (2011) examined the role of supply chain and information technology in the achievement of product quality performance. The study was conducted in 111 Thai suppliers and automakers using univariate analysis. The findings of the study showed that the product quality was impacted by the supply chain integration and information technology. However, there are other researches that show an insignificant relation of product quality on the performance of the logistics. This indicates that this does not show any significant relationship with the dependent variable. Therefore, it can be said that the researches available on the variable of product quality contains varying results and there are not enough researches available whose findings coincide with each other.

2.7 Conceptual Model

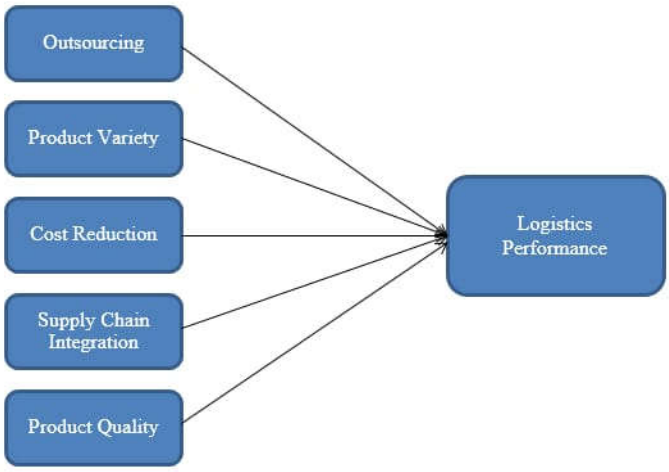

Figure 1: Conceptual Framework

Outsourcing: In general terms, outsourcing is considered to be the process through which the company instead of handing over the responsibilities to employees of the company, given the responsibilities to external vendors or an outside resource to complete the project(Cohen and Roussel, 2013). Moreover, in the field of manufacturing and logistics, the concept of outsourcing is based on giving a contract to an external company to manufacture the product and deliver it to the retailing outlet. The main reason behind the use of outsourcing technique is that it tends to have a positive effect on the company's production and logistics performance. For instance, it initially helps the company in lowering the cost of operation management and logistics performance. In a similar way, it allows the company to reduce the workforce by giving the contract to external vendors or an outside resource. These external vendors or resources are relatively more effective and experienced as compared to employees. For example, they must have been working for other well-reputed companies due to which they must have attained significant knowledge to deal with different type of complexities which exist within the logistics business.

Product Variety: The variety of the products has a significant impact on the performance of logistic as there has been an increasing trend of growing the product lines in the organisations. According to de Groote and Yücesan (2011), the product variety has been considered one of the important influencers of performance of the logistics. The author explains this by mentioning that the increase in the cost of keeping inventories and backlogs is caused by the increase in the number of the products with demand kept constant. This study shows that the variable of product variety has a direct influence on the logistic performance of an organisation.

Cost Reduction: The element of cost reduction is of significant importance in improving the performance of the logistics. The costs are the most important element in the performance of supply chain. The organisations which are able to reduce the costs associated with their supply chain are able to improve their logistic performance. Managing a supply chain is a significantly complex job due to the increase in the number of products and the increased product life cycles. Due to this reason, reducing the cost in such an atmosphere is a challenging task in improving the logistic performance

(Artman, Lonn and Nillson, 2014). Therefore, a reduction in cost can lead to an increase in the logistic performance which shows that cost reduction has an impact in the performance of logistics.

Supply Chain Integration: The integration of the supply chain has turned out to be the most important element for the companies due to its potential to increase the performance of the company. The integration of supply chain also has an effect on the performance of logistics of an organisation. The supply chain integration has also turned out to be a strategic coordination of the processes and functions in a company (Kumar *et al.,* 2017). The study also shows that the integration of the supply chain has a significant impact on the logistic performance of an organisation as it aligns all the supply chain processes of the organisation with the business objectives. Therefore, this variable also impacts the logistic performance within an organisation.

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Hypothesis: The hypotheses of the study have been formulated below;

H_1: Outsourcing affects the logistics performance of the FMCG industry of Pakistan significantly and positively
H_2: Product Variety affects the logistics performance of the FMCG industry of Pakistan significantly and positively
H_3: Cost Reduction affects the logistics performance of the FMCG industry of Pakistan significantly and positively
H_4: Supply Chain Integration affects the logistics performance of the FMCG industry of Pakistan significantly and positively
H_5: Product Quality affects the logistics performance of the FMCG industry of Pakistan significantly and positively

FMCG INDUSTRY IN PAKISTAN

This section providesanalyze the FMCG industry of Pakistan to evaluate its performance over time. FMCG industry of Pakistan is one of the fastest growing industries that is getting higher investment. The complexity of global supply chains has become a major challenge for many companies operating in Pakistan. Managing logistics can be an undesirable waste of resources, especially if the company is growing rapidly. At the same time, opportunities to gain experience in this area may be limited. In cases such as this, outsourcing all or part of the supply chain is a cost-effective solution (Tariq *et al.,* 2013). The current market size of Pakistan FMCG is $152 billion that is expected to grow 8.2% per year in the coming years (Haq, 2018). A strategic outsourcing contract indicates the exact function of outsourcing that is covering key areas such as end-to-end visibility of business processes and business analytics as part of our portfolio of services. According to Rasool *et al.,* (2012) FMCG market involves managing large volumes and strong turnover rates for its customers. In Pakistan, it includes high-frequency purchases, fluctuating volumes and constant developments in one sector, therefore, require the implementation of a flexible supply chain.. Logistic services designed to provide reliable alerts and tracking information that is essential to ensure the systematic supply of FMCG products. However, outsourcing offers information systems and tracking tools to monitor supply chain in real time. Auto, (2018) reported that Pakistan society is categorized as a highlyconsumption-oriented society that has a lower level of investment in large business practices and low level of national savings. Effectiveness in the logistic performance is significantly important for the development and growth of FMCG companies. Logistic Performance Index (LPI) is an effective method of measuring the logistic capabilities of a country. This is an indicator that is compiled by the World Bank. According to this indicator, the logistic performance of the Pakistan is slightly better than the average performance of logistics in the region (MENA Logistics, 2009). The biggest challenge relating to the logistic is in the infrastructure and the customs classification of Pakistan. The following table shows the overall LPI of Pakistan in comparison with other countries in the region.

Country	Overall LPI
UAE	3.73
EU	3.67
Israel	3.21
Saudi Arabia	3.02
Oman	2.92
Jordan	2.89
Tunisia	2.76
Pakistan	2.62
Morocco	2.38
Egypt	2.37
Lebanon	2.37
Syria	2.09
Algeria	2.06

(Source: MENA Logistics, 2009)

Logistics are considered as an economic bottleneck that becomes a strategic area for business. It has been found that logistics are very important instruments for any management in FMCG industry. However, if these practices in business are effective and can help improve processes and results. These are aligned with the company's strategies and objectives. It has been identified that the distribution of FMCG products has been transformed over time as most of the customer prefers to go on traditional store rather than shopping on the digital network due to security concern. Through this growth of FMCG companies is affected by the backward technological trend.

RESEARCH METHODOLOGY

It is a procedure which can be utilized and connected so as to gather and assemble information and data to recognize the perspective of respondents and insightful creators through essential and optional sources Saunders (2012). In this concern, this section of the paper will focus on conducting research to appraise the role of outsourcing and risks associated with outsourcing in the logistics performance of companies working in the FMCG sector of Pakistan.

Research Design: Thisis a deductive research based on quantitative research design applied through the use of close ended questionnaires using 5 point Likert scale. Hence, primary research has been conducted using quantitative research design. The questionnaire has been developed and emailed to the selected participants.

Sample Size: In this following research study, nearly 256 respondents or participants have been included in the quantitative research.

Data Analysis: The Structural Equation Modelling or SEM can be used to gauge the capacity of the latent variable while at the same time it can also test the association between the latent variables (Babin *et al.,* 2008). When this method was first introduced, it utilised an approach which was based on covariance (CB-SEM). However, the researchers can also select the partial least square method that is based on variance (PLS-SEM). The PLS-SEM can be used wherever the data set is non-normal, the sample size is small and the constructs can be formatively measured. Therefore, this method has been used in the current research as it consisted of all the attributes that are essential for using this method. Therefore, in this following research PLS-SEM has been utilised with the objective of highlighting the results of the responses to determine the effect of outsourcing in the logistics performance of the "Fast Moving Consumer Goods Industry of Pakistan."

RESULTS

Demographic Profile Analysis: The demographic profile of the total 256 respondents has been presented below pertaining to the FMCG industry, and outsourcing in Pakistan.

Table 1. Demographic Profile

Demographic Profile	Frequency	Percentage
Gender		
Female	49	19%
Male	207	81%
Age		
Less than 20	8	3%
20-25	78	31%
26-30	93	36%
30-35	59	23%
More than 35	18	7%
Education		
Matriculation	4	2%
Intermediate	41	16%
Bachelors	110	43%
Masters	87	34%
PhD	14	6%
Experience in Outsourcing		
Less than 1 year	34	13%
Fresh-2 years	79	31%
2-4 years	122	48%
5-10 years	18	7%
More than 10 years	3	1%
Geographical Location		
Karachi	112	44%
Lahore	52	20%
Islamabad	31	12%
Peshawar	7	3%
Other	54	21%

Source: Author (2019)

On the basis of the calculation and the table presented above, it can be asserted that mostly, men are working in the FMCG industry of Pakistan as 81% of the respondents of the study are males while 19% are females. In addition, most of the respondents belonged to the age group of 26 to 30 years forming 36% of the total sample. On the other hand, most of the respondents have completed their Bachelors forming 43% of the total sample. Moreover, concerning the experience, it can be seen from the table that the experience of most of the people lies between 2 to 4 years in outsourcing. Lastly, pertaining to the geographical location, most of the participants of the study belonged to Karachi forming 44% while, 21% belong to cities other than Karachi, Lahore, Islamabad, and Peshawar.

Descriptive Statistics: The following is the descriptive analysis of each of the questions in the table above based on all the variables included in the research. There are a total of 6 variables and all the variables consist of 5 questions each. All the questions under each variable have the same number of responses that were 256. The values of the responses of each question are mentioned in the analyses which fall in the range of 1 to 5. The questions that have a mean which is below 3 indicate that most of the responses to those questions were either disagree or strongly disagree. Similarly, the questions with the mean of 3 indicates that the responses to them were close to neutral and the questions with mean over 3 indicates that the responses were mostly inclined towards agree and strongly agree. Finally, the higher standard deviation of the questions means that the responses are spread far away from the mean whereas the lower standard deviation means that the responses are closer to the mean.

Outsourcing: In this variable, all the questions have the min value of 1 and the max value of 2. In OUTS1 the mean of the responses is 3.89 which mean that the responses were close to agree. The standard deviation of this question was 0.811. In OUTS2 the mean of the responses is 3.82 which mean that the responses were close to agree. The standard deviation of this question was 0.811. Similarly, in OUTS3 the mean of the responses is 3.41 which mean that the responses were close to neutral. The standard deviation of this question was 0.817. In OUTS4 the mean of the responses is 3.96 which mean that the responses were close to agree. The standard deviation of this question was 0.871. Finally, in OUTS5 the mean of the responses is 4.08 which mean that the responses were close to agree. The standard deviation of this question was 0.783.

Product Variety: In this variable, all the questions have the min value of 1 and the max value of 2. In PV1 the mean of the responses is 3.89 which mean that the responses were close to agree. The standard deviation of this question was 0.838. In PV2 the mean of the responses is 4 which mean that most of the responses were agree. The standard deviation of this question was 0.835. Similarly, in PV3 the mean of the responses is 4 which mean that most of the responses were agree. The standard deviation of this question was 0.901. In PV4 the mean of the responses is 3.85 which mean that the responses were close to agree. The standard deviation of this question was 1.035. In PV5 the mean of the responses is 4 which mean that most of the responses were agree. The standard deviation of this question was 0.847.

Cost Reduction: CR1 has the min value of 1 and the max value of 5. The mean of the responses of this question is 4.09 which mean that the responses were close to agree. The standard deviation of this question was 0.791. CR2 has the min value of 1 and the max value of 5.

Table 2. Descriptive Statistics

Descriptive Statistics	Mean	Std. Deviation
There has been a shift from managing the supply chain process in a vertical manner to integrating the process from supplier to consumer.	3.89	0.811
Time-based logistic solutions such as quick response, continuous replenishment, and just in time delivery with customers is used by my company	3.82	0.811
The logistics information system in my company are being expanded for the purpose of integrating more applications	3.41	0.817
There are more strategies used by my company for final product configuration and postponement of movement as compared to previous times	3.96	0.871
Reverse logistics are facilitated by my company with the help of various procedures	4.08	0.783
The product range of this website is complete	3.98	0.838
The products of other similar websites can be found at this website	4	0.835
Most of the goods I need can be found at this website	4	0.901
There are more choices for goods of a particular type at this website	3.85	1.035
I am satisfied with the product quality provided by the website	4	0.847
It has been possible to achieve higher than average reductions in cost.	4.09	0.791
It has been possible to achieve more cost-effective than average total costs.	4.04	0.806
The reductions in cost achieved are considerably higher than expected.	4.15	0.747
The total costs achieved are considerably better value than expected.	4.04	0.764
The total costs achieved is greater as compared to in-house execution of the process	3.73	0.873
We work as a partner with our suppliers, rather than having an adversarial relationship.	4.12	0.753
We believe that cooperative relationships will lead to better performance than adversarial relationships	4.19	0.666
We believe than an organization should work as a partner with its surrounding community.	4.05	0.726
We maintain close communication with suppliers about quality considerations and design changes.	4.14	0.729
We maintain cooperative relationships with our suppliers.	4.13	0.755
The brand provides a wide supply of products	3.93	0.945
The brand provides a wide selection of colors	4.09	0.683
The brand provide stylish products	4.03	0.789
The brand provides product of high quality	4.07	0.816
The brand provides product of high durability	3.27	0.789
Logistics is considered to be one of my company's major strength	3.77	0.7
The senior management of my company plan and drive development of IT for the purpose of using it for logistics	4.1	0.753
The logistic performance is measured with the help of productivity, customer service, cost, quality, and asset management	4.05	0.803
My company engages in developing plans for the purpose of establishing and maintaining business performance	3.68	0.903
During the past two years, my company has undergone re-engineering with respect to the logistics management	2.86	0.827

Source: *Author (2019)*

Table 3. Confirmatory Factor Analysis

Variables	Question	Factor Loadings	T-values	P-values	CR	AVE
Cost Reduction	*CR1*	0.746	18.132	0.000	0.888	0.615
	CR2	0.820	26.904	0.000		
	CR3	0.860	39.729	0.000		
	CR4	0.832	31.582	0.000		
	CR5	0.643	11.706	0.000		
Logistics Performance	*LP1*	0.733	24.379	0.000	0.822	0.504
	LP2	0.833	27.142	0.000		
	LP3	0.815	23.108	0.000		
	LP4	0.746	16.465	0.000		
	LP5	0.260	3.036	0.003		
Outsourcing	*OUTS1*	0.832	24.977	0.000	0.862	0.581
	OUTS2	0.881	54.362	0.000		
	OUTS3	0.245	2.672	0.008		
	OUTS4	0.845	32.067	0.000		
	OUTS5	0.814	24.635	0.000		
Product Quality	*PQ1*	0.515	7.529	0.000	0.861	0.559
	PQ2	0.731	19.196	0.000		
	PQ3	0.760	26.039	0.000		
	PQ4	0.887	55.323	0.000		
	PQ5	0.796	25.725	0.000		
Product Variety	*PV1*	0.825	28.660	0.000	0.902	0.650
	PV2	0.875	49.606	0.000		
	PV3	0.887	59.716	0.000		
	PV4	0.698	12.694	0.000		
	PV5	0.729	19.820	0.000		
Supply Chain Integration	*SCI1*	0.836	34.441	0.000	0.892	0.625
	SCI2	0.841	33.411	0.000		
	SCI3	0.806	24.657	0.000		
	SCI4	0.707	16.538	0.000		
	SCI5	0.753	20.352	0.000		

Source: *Author (2019)*

The mean of the responses of this question is 4.04 which mean that the responses were close to agree. The standard deviation of this question was 0.806. Additionally, CR3 has the min value of 2 and the max value of 5. The mean of the responses of this question is 4.15 which mean that the responses were close to agree. The standard deviation of this question was 0.747.

CR4 has the min value of 1 and the max value of 5. The mean of the responses of this question is 4.04 which mean that the responses were close to agree. The standard deviation of this question was 0.764. Finally, CR5 has the min value of 1 and the max value of 5. The mean of the responses of this question is 3.73 which mean that the responses were close to agree. The standard deviation of this question was 0.873.

Supply Chain Integration: SCI1 has the min value of 1 and the max value of 5. The mean of the responses of this question is 4.12 which mean that the responses were close to agree. The standard deviation of this question was 0.753. SCI2 has the min value of 1 and the max value of 5. The mean of the responses of this question is 4.19 which mean that the responses were close to agree. The standard deviation of this question was 0.666. In addition, SCI3 has the min value of 1 and the max value of 5. The mean of the responses of this question is 4.05 which mean that the responses were close to agree. The standard deviation of this question was 0.726. SCI4 has the min value of 2 and the max value of 5. The mean of the responses of this question is 4.14 which mean that the responses were close to agree. The standard deviation of this question was 0.729. Lastly, SCI5 has the min value of 1 and the max value of 5. The mean of the responses of this question is 4.13 which mean that the responses were close to agree. The standard deviation of this question was 0.755.

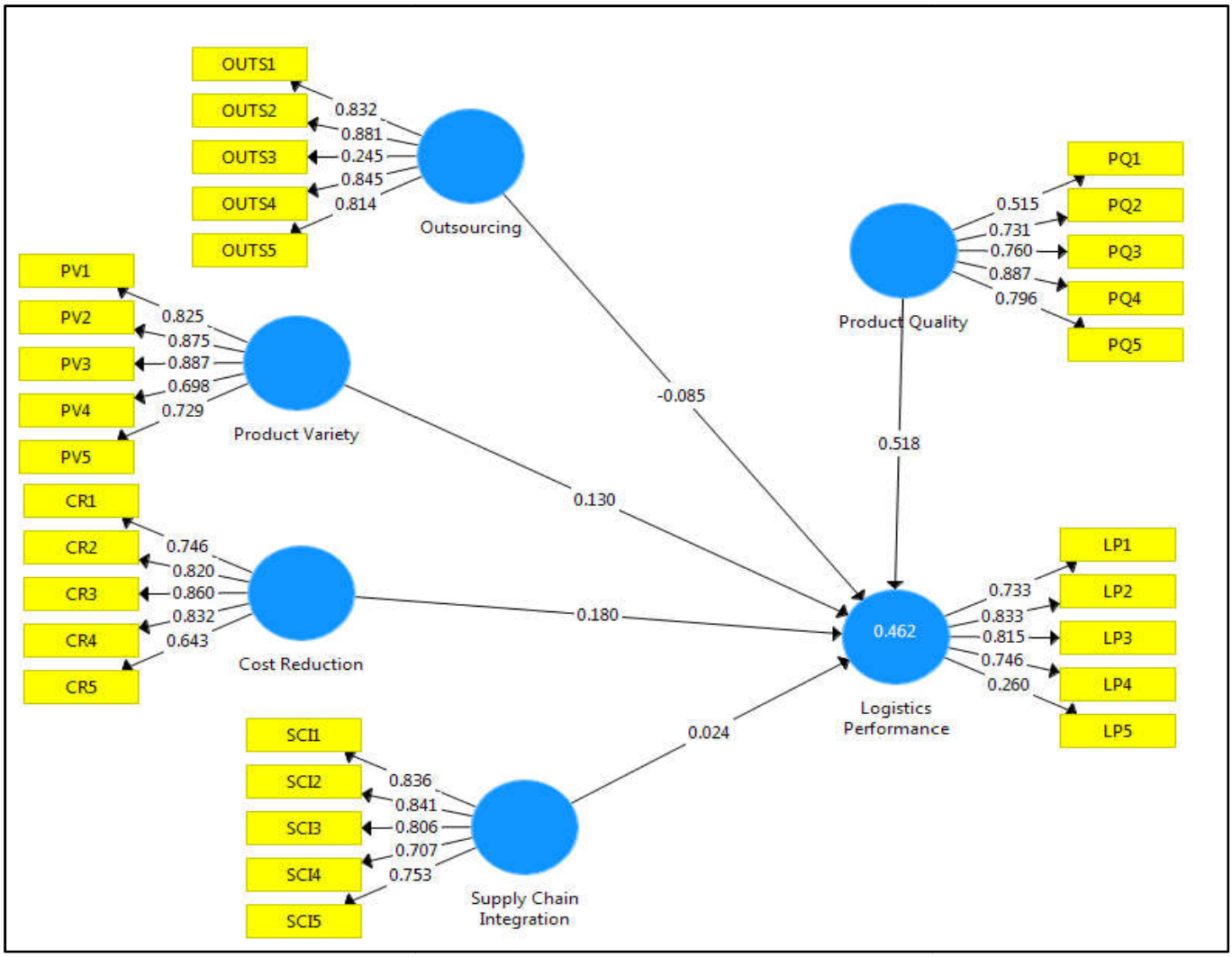
Product Quality: PQ1 has the min value of 1 and the max value of 5. The mean of the responses of this question is 3.93 which mean that the responses were close to agree. The standard deviation of this question was 0.945. PQ2 has the min value of 2 and the max value of 5. The mean of the responses of this question is 4.09 which mean that the responses were close to agree. The standard deviation of this question was 0.683. Furthermore, PQ3 has the min value of 1 and the max value of 5. The mean of the responses of this question is 4.03 which mean that the responses were close to agree. The standard deviation of this question was 0.789. PQ4 has the min value of 1 and the max value of 5. The mean of the responses of this question is 4.07 which mean that the responses were close to agree. The standard deviation of this question was 0.816. Finally, PQ5 has the min value of 1 and the max value of 5. The mean of the responses of this question is 3.27 which mean that the responses were close to neutral. The standard deviation of this question was 0.789.

Logistic Performance: LP1 has the min value of 2 and the max value of 5. The mean of the responses of this question is 3.77 which mean that the responses were close to agree. The standard deviation of this question was 0.700. LP2 has the min value of 2 and the max value of 5. The mean of the responses of this question is 4.10 which mean that the responses were close to agree. The standard deviation of this question was 0.753. Similarly, LP3 has the min value of 1 and the max value of 5. The mean of the responses of this question is 4.05 which mean that the responses were close to agree. The standard deviation of this question was 0.803. LP4 has the min value of 1 and the max value of 5. The mean of the responses of this question is 3.68 which mean that the responses were close to agree. The standard deviation of this question was 0.903. Finally, LP5 has the min value of 2 and the max value of 5. The mean of the responses of this question is 2.86 which mean that the responses were close to neutral. The standard deviation of this question was 0.827.

Confirmatory Factor Analysis: In order to examine the constructs for their reliability, composite reliability and average variance extracted (AVE) have been used. The results in this context have been presented below;

In light of the research carried out by Hair *et al.,* (2010), the association of one variable with the other in degrees can be deemed as factor loadings; therefore, in the context of this study, the factor loadings have been computed as well. However, the factor loading having computed values above 0.5 are referred as to acceptable constructs according to the research conducted by Kline (2015). In this perspective, only two factor loadings seem to have values lesser than 0.5 otherwise, all constructs have values above 0.5. Another study stated that, if the values are computed to be more than 0.4 then, factor loadings are appropriate (Lohmöller, 2013). However, in this case, the two values are less than 0.3 therefore, some values are inadequate. The significance and reliability of the factor loading increases with the increment in the value, therefore, value more than 0.7 can be presumed to be of high reliability while the values near 0.4 can be deemed as average. On the other hand, the minimum acceptable value for t-statistics when the analysis is two-tailed is 1.96 (James *et al.,* 2013). In this respect, all values can be inferred as significant as the minimum value of t-statistics computed is 2.672. Therefore, all constructs are significant enough for the analysis. Furthermore, as stated by Hair *et al.,* (2016), the threshold value for the composite reliability of the constructs is 0.7. But, if the value is above 0.6 then, it can also be deemed as a reliable value of the construct (Avkiran and Ringle, 2018). Howsoever, in this study, no construct has composite reliability lesser than 0.82 therefore, the variables possess high reliability and are consistent. In addition, the reliability of the constructs is also done with the help of AVE which has been presented in the table above. According to the research of Hair *et al.,* (2016), the values above the 0.5 threshold of AVE can be stated as reliable, therefore, in this essence, all values of AVE concerning each construct of the study are more than 0.5 so, all are reliable. Moreover, in accordance with the study of Ab Hamid, Sami and Sidek (2017), AVE is usually used for the assessment of convergent validity of the constructs. Cumulatively, it can be inferred that, on the basis of confirmatory factor analysis, all constructs of this study that are cost reduction, logistics performance, supply chain integration, outsourcing, product quality, and product variety are reliable.

Structural Equation Modelling: To test the study hypothesis we have used the structural equation model (SEM) whereas the testing has been gone through Smart PLS software. Moreover, to evaluate the indirect and direct effects of all the constructs the testing was done. The use of (SEM) structural equation model has been observed to be a foremost procedure that has been used below different regression models and methods (Barron and Kenny, 1986). Moreover, the equation of regression in study targets at explaining each construct to assess the cause and effect relationship while all of the factors in the causal model could demonstrate their cause and effect at exact time. Likewise, the idea of using this model ensures to apply technique of bootstrapping which has been viewed as reasonable for both small and large sample size and does not require any kind of indirect effect (Hayes, 2013). Additionally, the concept of utilizing the structural equation model makes sure to apply the bootstrapping technique that has been preferred to be accurate for the sample sizes either large or small. It also does not need any such kind of indirect effects. If the AVE is more than 0.5 than the result is drawn that the loadings are good but less than 0.5 are termed as less effective for the study. In order to check the all direct and indirect effects, a technique has been implemented which is known as bootstrapping (Shrout and Bolger, 2002).



Source: Author (2019)

Figure 2. Structural Model

The method was indicted by Baron and Kenny (1986) and is criticized by number of researchers but is used widely in the rage of studies (MacKinnon, 2008). Additionally, the p values in the table depicts about the acceptance and rejection level by seeing the null hypothesis that depends on the upper and lower bounds of the confidence intervals. Structural equation modelling used to evaluate the structural relationship between exogenous and endogenous variables. The structural equation modelling includes factor analysis and multivariate analysis of the model. Firstly we evaluate the model fitness and measure whether the paths showing the relationship between measured and latent variables are significant or not. The path diagram showed in Figure 2.

Measurement of Outer Model: The goal of measure of fit in the measurement model is to study about the reliability and validity of the instrument and to check its reliability and validity we perform test of convergent validity and discriminant validity in software naming Smart PLS.

Composite Reliability: Reliability of the measurement instruments was evaluated using composite reliability. All the values were above the normally used threshold value i.e. 0.70. This is the accepted reliability value range. Estimation of reliability can be done by degree of constancy that lies amongst various variables (Hair , 2010). Below is the table of composite reliability.

Convergent Validity: Convergent validity is the level of agreement in at least two measures of a similar construct (Carmines and Zeller, 1979). Convergent validity was assessed by inspection of variance mined for each factor (Fornell and Larcker, 1981). Conferring to Fornell and Larcker (1981), if the, variance extracted value is greater than 0.5 then convergent validity is established. Following table displays the result.

Variables	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Cost Reduction	0.842	0.871	0.888	0.615
Logistics Performance	0.754	0.791	0.822	0.504
Outsourcing	0.784	0.855	0.862	0.581
Product Quality	0.798	0.834	0.861	0.559
Product Variety	0.865	0.893	0.902	0.650
Supply Chain Integration	0.849	0.849	0.892	0.625

Discriminant Validity: Discriminate validity can be defined as any single construct when differs from other constructs in the model (Carmines and Zeller, 1979). Discriminate validity results are satisfactory when the constructs are having an AVE loading more than 0.5 which means that minimum 50% of variance was took by the construct (Chin, 1998). Discriminate validity is established if the elements which are in diagonal are significantly higher than those values in off-diagonal in the parallel rows and columns. The table above also indicates about the reliability and validity of the interrelated variables.

Table 4. Discriminant Validity

	Cost Reduction	Logistics Performance	Outsourcing	Product Quality	Product Variety	Supply Chain Integration
Cost Reduction						
Logistics Performance	0.5758					
Outsourcing	0.8036	0.5338				
Product Quality	0.6813	0.7685	0.6801			
Product Variety	0.7171	0.5239	0.7787	0.5449		
Supply Chain Integration	0.8455	0.5792	0.7350	0.8237	0.5487	

Source: *Author (2019)*

Table 5. Hypotheses Testing and Path Analysis

Hypotheses	Statement	Beta	P-Values	F-square	R-square	Decision
H1	Outsourcing -> logistics performance	-0.085	0.241	0.0061712	0.462	Unsupported
H2	Product Variety -> logistics performance	0.130	0.0880448	0.016	0.462	Unsupported
H3	Cost Reduction-> logistics performance	0.180	0.026	0.022	0.462	Supported
H4	Supply Chain Integration -> logistics performance	0.024	0.7656799	0.000	0.462	Unsupported
H5	Product Quality ->logistics performance	0.518	0	0.272	0.462	Supported

Source: *Author (2019)*

Model Fit		
Fit Summary		
	Saturated Model	Estimated Model
SRMR	0.111	0.111
d_ULS	5.757	5.757
d_G	1.886	1.886
Chi-Square	2,380.150	2,380.150
NFI	0.590	0.590
rms Theta		
rms Theta	0.170	

The notion of reliability assists to demonstrate about the consistency among the multiple variables and has been measured with the help of the PLS software. The study has been doing the reliability test by linking it with the Cronbach's alpha with the objective to measure the reliability of the scale. The present study has also followed the Cronbach approach to see the reliability of the scale which should always be higher than the value of 0.7 to ensure higher internal consistency. Thus, it has been noted that the Cronbach value for cooperative behaviour 0.857 which depicts the higher consistency. On the other hand, SC performance and SC practice also shows strong internal consistency by having the Cronbach value of 0.827 and 0.93. This implies that the variables have been closely linked with each other. Among all the three variables, SC practice showed the higher and stronger consistency and makes adequate reliability of the data related to SC practice variable.

In discriminant validity, mostly, the degree of distinction between the constructs is examined (Wang *et al.,* 2010) therefore, concerning this study, the discriminant value has been evaluated with the help of heterotrait-monotrait (HTMT) ratio which has been presented below in tabular form; It is a general assumption that the constructs should be distinct which means that there should be no or least correlation between the constructs of the study. In this respect, the threshold value is 0.85, which infers that constructs having values above it can be stated as invalid (Henseler, Ringle and Sarstedt, 2015). Furthermore, Ab Hamid, Sami and Sidek (2017) demarcated that some authors debated the threshold value that it is 0.9. However, when the discriminant validity of the constructs is considered in this study then, no construct has exceeding value therefore, it infers that constructs are valid and discriminant. In addition, if the values were greater than 0.85 then the constructs would become invalid and insignificant. But, the case in this study is otherwise. In addition, for the assessment of discriminant validity, Fornell Larcker criterion is also used but, the study of Ab Hamid, Sami and Sidek (2017) stated that authors have considered HTMT as a more reliable metric and measure of discriminant validity. It has been assessed that all the values are below the threshold value of 0.85 indicating that discriminant validity exists here.

Structural Model: Following results have been presented in precise tabular form; On the basis of the results of p-values, and f-squares, the only variables that found to have a significant impact on the logistics performance are cost reduction and supply chain integration. On the other hand, the variables that have an insignificant impact on the logistics performance of the FMCG industry of Pakistan are product variety, supply chain integration, and outsourcing. Therefore, the hypotheses concerning them are unsupported. Furthermore, the value of R-squared is asserting the variation percentage of the dependent variable delineated by the variation in the predictors of the study (Wan, 2013). Therefore, the variables that are outsourcing, product variety, cost reduction, supply chain integration, and product quality are the predictors and are cumulatively explaining 46.2% per cent variation on the FMCG's logistics performance of Pakistan.

Moreover, f-square values greater than 0.02 are assumed to have a significant impact (Cohen, 1988) therefore, in this context, cost reduction and product quality have significant values. In addition, the values of f-square near 0.02 can be assumed to be having minor effect while values greater than 0.15 can be said to have a moderate effect. However if the values are above 0.35 of the f-square the, it can be deemed that the effect is intensive. Furthermore, the significance level of the study is 5% therefore, p-values greater than 0.05 (5%) are considered to be insignificant whilst, lower values are regarded as significant. In this aspect, cost reduction and product quality are significant. However, if the significance level is taken to be 10% then, product variety would also be deemed as significant.

DISCUSSION

The current research consists of the analysis of the impact that outsourcing has on the FMCG sector of Pakistan. Smart PLS software was used for the examination through the method of structural equation modeming. A total of 256 respondents became the part of the study and their responses were analysed using different tools. The results of the analysis of the demographics showed that there were more males than females in the FMCG sector of Pakistan. In addition to this, an analysis of confirmatory factor showed that all the variables were reliable with respect to CR and AVE. Similarly, the use of HTMT criterion proved the discriminant validity of the variables. Furthermore, the path analysis of the structural model showed that the cost reduction and quality of product have an impact in the logistic performance. This finding supported two of the hypothesis of the study relating to cost reduction and product quality. On the contrary, the remaining variables of supply chain integration, product variety and outsourcing were unsupported by the analysis. The results of the study have shown that the outsourcing does not have a significant impact on the performance of logistics in FMCG factor of Pakistan. Similarly, the study has also shown that the supply chain integration as well as the product variety has no positive affect on the FMCG factor of Pakistan. However, the review of the literature in chapter two had shown that these variables have a significant and positive impact on the performance of the logistics in the FMCG sector of the country. Based on the literature review, the researcher of this study had formed hypotheses on 5 different variables but the findings of the study did not support all the hypotheses. Therefore, it can be said that the findings of the study has contradicted with the previous studies which showed that outsourcing, product variety and supply chain integration are the variables that impact logistic performance.

In accordance with the results, outsourcing is an insignificant variable in explaining logistics performance. However, the results in this context are contradictory to the research conducted by Somuyiwa *et al.,* (2015) who found that through outsourcing, the enhancement can be brought in the logistic performance of the company. Moreover, the study of Meidutė-Kavaliauskienė, Aranskis and Litvinenko (2014) has found that product quality brings customer satisfaction which results in an improvement in the logistics performance of the company. Therefore, in this essence, the results of this study are coincided and supported. On the other hand, de Groote and Yücesan (2011) found that product variety improves the logistics performance which is contrary to the findings of this study. Moreover, in the context of outsourcing, the study is contradictory to the findings of Hilletofth and Hilmola (2010) who found the role of outsourcing as crucial in logistics. Furthermore, in light of the study conducted by Yuen and Chan (2010), the service quality apart from product quality affects the organizational performance. In addition, the customers' satisfaction is linked with the quality of both product and service by the companies which can is dependent on the performance of each department of the organization. Therefore, the department of SCM and logistics is one of the most crucial departments in the organization. Moreover, it has been further supported by the findings of Guo, Ling, and Liu (2012) concerning the logistics performance, and customer satisfaction. Therefore, it can be stated that some of the relations and effects are significant while othersare insignificant which asserts changes in the country dynamics and the stance of the people concerning logistics performance and outsourcing. The findings of the study hold great significance for the researcher, academicians and practitioners relating to the field of logistics. Outsourcing was previously considered as the important factor which has a significant and positive impact that can improve the logistic performance of FMCG sector as supported by Somuyiwa *et al.,* (2015). However, the results of the study have challenged the previously held assumptions and practices of the organisations and they can use the findings of this study to revise their strategies for improving logistics performance. Furthermore, the findings of the study can also become the basis of future researches concerning to the field of logistics performance. Finally, the findings can also by the organisations in other sectors that rely on logistics performance to enhance the performance of their companies.

Conclusion

The following chapter is the concluding chapter in the context of the effect of outsourcing and risk factors on the logistics performance. Therefore, the results have already been presented and discussed in the previous chapter along with meticulous analysis. In this chapter, strategic recommendations have been presented along with the implications for development in this research in the future. The implications are related to the improvement in the research is future; therefore, those areas have been highlighted by the researcher of this study. The research was based on the examination of the effect of outsourcing, and risk factors on Pakistan's FMCG sector. The analysis technique employed was structural equation modeling on Smart PLS software. The sample size undertaken in this research was 256 respondents. Firstly, the analysis was made on the basis of demographics and it was found that males are working in this industry more than females. Moreover, confirmatory factor analysis was done afterward. In this respect, all variables were found to be reliable on the basis of CR, and AVE. Furthermore, discriminant validity was also tested and proved on the basis of HTMT criterion. Later, path analysis of the structural model was done and found that the hypotheses concerning cost reduction and product quality's impact on the logistics performance were supported. However, other variables that were product variety, supply chain integration, and outsourcing were found to be insignificant. In this respect, the study coincided with the findings of Meidutė-Kavaliauskienė, Aranskis and Litvinenko (2014) where it was found that product quality is the source bringing satisfaction to the customers which affect the performance of logistics department as well in a positive manner. On the other hand, in the context of outsourcing, the results are contradictory in comparison with the study of Somuyiwa *et al.,* (2015). Moreover, the variation in all these predictors of the study was explaining 46.2% variation in the logistics performance of Pakistan's FMCG sector as per the statistics of R-squared. But, it can be presumed that performances with respect to countries and industries vary in the perspective of logistics, supply chain, and outsourcing, therefore, the differences are rational.

In order to improve this research in the future, firstly, the sample size could be increased. Furthermore, a comparison of high scale FMCGs with the low scale FMCGs in Pakistan can be made. In addition, the study in the future can also be improved by conducting a comparative analysis of FMCG's of

two countries such as Pakistan and India. Moreover, additional variables can be incorporated in the study to examine their impact with the variables taken in this study such as inventory or physical assets as stated by the research of Zailani *et al.,* (2017). Therefore, this study still has space for improvement and enhancement. However, it is beneficial for the FMCG sector which can now determine which variables should be worked on for improving the productivity, efficiency, and profitability. Moreover, a comparative study concerning different industries of Pakistan can also be done to analyse the variability of the constructs concerning each industry of Pakistan which can be helpful in improving the logistics performance aggregately of Pakistan. In addition, it would also be beneficial for the industries and for their management in decision making. In the following section, strategic recommendations for improvement in the efficiency of the supply chain in the FMCG sector of Pakistan have been given as per the research objective of this study;

- The organizations operating in the FMCG's sector of Pakistan should make certain policies concerning the product quality along with service quality. Moreover, implementation is required on the policies. The research has found product quality as a significant variable therefore; this recommendation is also backed by the findings.
- Implementation of automated systems can improve efficiencyby reducing human error
- ERP systems in the companies can be installed for tracking the deadlines and each aspect.
- The companies should improve their R&D budget to find new ways of enhancing supply chain management.
- In addition, artificial intelligence such as blockchain can also be tested and used for the betterment of this industry in each aspect and specifically in logistics and supply chain.
- The companies should use data analytics techniques to derive meaningful insights which can be beneficial in decision-making. Moreover, it will also improve the transparency of the entire system.
- Furthermore, interconnection of the departments should be strengthened as well which can reduce the aggregate cost for the company stimulating profitability.

Conclusively, the research's aim has been successfully attained concerning the effect of outsourcing and risk factors on the logistics performance in the FMCG sector of Pakistan. However, the constructs that have been found to be significant are the ones which the sector and more precisely, the management of the companies need to pay heed on for their long-term profitability and sustainability in the market. Furthermore, the researcher has also put forth some recommendations which are associated with the integration of technology in the supply chain and logistics of Pakistan for enhanced performance and to compete with the global market and companies operating in the FMCG industry. Henceforth, the growth in the FMCG sector of Pakistan can contribute the economy of Pakistan as a whole which can stimulate the GDP of the country.

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