# Improving Supply Chain Performance across the Retail Food Industry of Pakistan

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**Abstract**

This research aims to study factors affecting supply chain performance in retail food industry of Pakistan, since retail industry is growing rapidly in Pakistan. The question is to find out relationship and impact of strategic supplier alliance, Customer relationship management, information sharing and lean thinking on supply chain performance. Quantitative study approach was considered for this research and questionnaire was adopted from existing literature. To gather primary data, a self-administered survey was conducted using convenient sampling and the research model was tested empirically by using a sample of 270 questionnaires, collected online and manually from supply chain professionals. In order to examine the influence of lean thinking, sharing of information, relationship with customer, relationship with supplier in the long run on supply chain performance, regression test was undertaken. The results indicate that strategic supplier alliance, customer relationship management, information sharing quality and lean thinking have statistically substantial influence on supply chain performance in retail food industry. Outcome after concluding the research will help supply chain

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*policy makers in developing successful strategies and designing an effective business model.*

**Keywords**: Information sharing, retail food industry, long term supplier alliance, Customer relationship management.

## 1. Introduction

Retailing is the last point of connect between individual customer and the manufacturer or distributor. For personal consumption, retailing plays the role of mediator between the producer and the individual consumer and it is the interface for buying. Since this retail industry is further broke down into stores so it got feasible for the customer to get their desire product easily although prices are little high as compare to the retail market. Retail industry of Pakistan having huge growth potential and counted as one of the sunrise sectors. Furthermore, after the manufacturing and agricultural sector, new emerged market in Pakistan in the retail and wholesale industry which is giving employment around sixteen percent of the total labor force and entitled as the second largest employer. Contribution of this retail sector on the Pakistan industry is around eighteen percent and contributes around thirty three percent of the overall service sector (Aghazadeh, 2004).In Pakistan, there are some other factors which are continuously helping and contributing a lot in retail industry growth and emergence by providing the transactions on credit, easily access the internet so the customer can do online shopping and availability of social sites on big and small scales. Moreover, new retailing formats is now having home in Pakistan industry and they are introducing in markets. Furthermore, big marts are also attracting customers by facilitating them retail price and lots of products under one roof. The demand for commercial real estate is fueling by the retail development. Growing customer awareness are pushing marketers to invest in both retail and real state (Alexander H. Hubner, 2013).

The retail supply chain is getting incredibly complex and the complexity of supply chain includes; storage locations and multiplicity of sales, unforeseen activities and volatility of demand inclusive variety of categories of products which is increasing day by day also as well. In reality, lots of different kind of initiatives and stages have to

follow to fulfil the desire demands of the customer by providing store services, retail services, online services and door to door services. Providing product by saving time and cost to the customer make it customer satisfy. According to (Popli, G.S. and Kumari, S, 2013) if an organization wants to supply chain then they need to make clear themselves regarding each category of value chain. For the purpose of continuous upgradation in the success path, management of supply chain foundation provides the right path for their followers and also the concept of measuring the progress and initiatives (Moberg, 2002). Supremacy of retail as the main power in the business to consumer channel despising the fact that there is dearth in supply chain research (Boyle, 2009).According to the distribution and marketing of consumer products, management of retail industry is now being more opportunistic variable in the theory of manufacturing. Exploring major construct among the management of practices in SCM and practical performance of supply chain are included as objective of this paper, which define the reliability and validity with the dependent variable's efficiency and effectiveness. Secondly, the variables in this study includes alliance of strategy, manage the relation between customer, sharing the information, and impressive thinking and they all having impact on management of supply chain and in the sites of retail business in Pakistan (Chong Felix, 2011).

Supply chain processes are a vital essential for the prosperity of a firm. Process of supply chain yield and condition is calculated by using several constructs of financial and cost effectiveness (Li et al, 2006). The nature and complexity in the supply chain organization depends on the business from it belongs. Term retailing is highly complex in SCM, because of the large number of stock quantity, frequency and diversity in sales, location of storage, changing demand and sensitivity of need and as well as variety of categories to handle. In addition to this supply chain in retail comprises of separate supply chains from downstream, connected with several suppliers for each numbers of categories in order to make right product available to customer by keeping correct leverage of time, location and cost. Understanding of Supply chain in merchandising includes detail clarification of each category separately and the way all work together to deliver value to customers (Popli, G.S. and Kumari, S, 2013). Globalization and ultracompetitive marketplace making it complex and providing it to the market on time. Need to lower stock level led

to implementation of products with specific time and thinking. In context of improving performance, quality assurance organization has to build the basis and practices of supply chain. The changing business environment making it necessary to use outsourcing in food retail while using correct knowledge and accurate technology for the required specification. Now retailers are dealing with many more mediums to make their work flexible and accurate such as, checking out products by their own, EDI, RFID, on-line shopping and smart phone applications. As far as, if we seeing business are getting complex as well because product selling medium is increasing day to day and retailers should have to adopt them and also have to maintain them to run the supply chain performance smoothly (Gengatharen, 2018).

Shradha Ashok Gawankar, (2017) measured process of SCM practices in the retailing business of Indian. If business built good and effective relation with their consumer so it will help them to attract more customer by the word of mouth of their loyal consumers. Through SEM model analysis we have founded that these practices of supply chain are link with the production and advancement of management of supply chain activity which give the overall improvement in performance. According to (Gengatharen, 2018) research, shared information should be valuable with thinking background in order to support practices of SCM which contribute the greater efficient supply chain in retail food sector of Australia. The study investigates supply chain performance by five factors which include; management of customer relation, strategical association, allocation of information and remarkable quality of shared information with focused thinking. In addition, originator of cooperative conduct, reliable commitment and validity was also taken as a mediating variable. Meaningful information and positive valuable thinking show significant impact on the activities of SCM practices. The changing business environment and literature reviewed combines knowledge to examine management practices of supply chain activities and their consequence on retail food chain. According to the (Gengatharen, 2018) if the culture and weather of the organization is complex then supply chain have very dramatic impact on the performance of that particular organization. However, there are few studies investigating how supply chain practices impact on food industry. Further, retail sector of the Pakistan economy is

playing a key role in the country. Total turnover from the retail industry of Pakistan is seventeen percent and it contributes to the gross domestic product of the country. The retailing business is suffering from fast changes with time. This study will indent to reduce the literature gap and inspect certain management practices of supply chain which have any influence on food retail industry supply chain performance in Pakistan. Hence as per the discussion above the research is going to scrutinize the influence of information sharing, lean thinking, long term supplier alliance and customer relationship management on supply chain performance in Pakistan food retail sector.

In this paper following research question is proposed:

How do information sharing, lean thinking, long term supplier alliance and customer relationship management influence the supply chain performance of Pakistan's food retail industry?

## 2. Literature Review

In the research of (Samir K Srivastava, 2015) examination of proposed model of supply chain risk were discussed. After identification and clear understanding of risk interdependencies at different levels among food retail supply chain then inputs were taken from industry. Performance measures are directly proportional to risk and in relation to obtain elements of niche systems. According to investigated driving and dependency power the risk and performance estimation are clustered while using ISM approach. Implicating highest driving capacity and requirement of more attention and fascinated mitigation strategies caused due to change in governmental regulation. Risks includes like lack of tracing ability, delays in transport and break downs, communication breakage, hiring of medium low maintained drivers. The suggestions of this paper and limitation in this research is this research happens in retailing industry of food supply chain of India so automatically it confines the research finding in the boundaries of Indian industry. Selection specialties were happened on the basis of handiness and convenience. Implications in this research is that the authorities give authorities to their managers and the environment of organization is centralized, so this step affects the performance of the lower level staff in the industry. The conclusion of the selected survey in retailing industry of food supply chain have vast practical implication for both experts and practicing managers.

Particular efforts were made under this research might be enlightened the risk in supply chain. This research provides some theories and it gives conduction for the upcoming researcher to fill the fissure of this research. According to the (Taylor, 2015)without such agreement at the outset, in a value chain improvement this might will get effected due to the low issue in trust and reliability of changing policies. The research of (Gengatharen, 2018), betterment and efficiency in performances of supply chain management will lead the eminence of information shared and lean thinking. In other words, we can also state that cost reduction in SMEs is the result of implementing thinking and information sharing. The paper empirically evolving around the retail industry of Australia in which we examine the practices of the management of SCM on large and minor organizations in the retail food manufacturing of Pakistan. In this survey, 120 organizations were participated. In context for evaluating data multiple regression analysis is used. These practices of SCM include strategy alliance, manage remarkable relation with customer, sharing thinking and information with customers. The outcome shows that information quality and lean thinking shows positive connection in the SCM practices. This study argues lean thinking and information quality, correspondingly. Kaizen philosophy (PDCA) of continuous improvement and 5-S in food retailers has been proposed in the paper as this includes lean approach based. Perspective of 5-S essentially paying attention on the company, tidiness and hygiene. EDI and bar-coding system have been Several options recommended configurations in food retailers. Application of advanced tools with high standards is possible through informative system also it is needed to understand that Promoted to the electronic commerce.

Two important variables having relation among them and they are; SCMP and SCPM investigated by (Shradha Ashok Gawankar, 2017). He used different proposed archetypal to check the competence, dependability, prosperity and cogency of the chosen variables. Additionally, some other relations are also been calculated in this paper such as; SCMP and SEM. As far as data is concerned, 213 firms were participated in the collection and compilation of data. Conclusion of this paper will assist the future researcher who work in the field of procurement and supply chain in decision making. As far as, statistical technique is used to quota the association between

administration of supply chain and presentation. Moreover, statistically significant association is founded between the eight SCPM and five SCMP. Lastly, this research should have to provide the more insight of this variables. A study conducted on Africa retail sector which recognize the 7 elements to give the wider view of its study in the selected country. Relationship theory is used in this study. Retailers, food suppliers (locally), and administrative institution is participated under the approach of qualitative. Semi-structure interview format was made for data collection and for analysis of data qualitative the mastic systematic practice was used. The discoveries of this research influence manufacturer, suppliers who sell goods locally and the policy makers. In order to be an attractive candidate for the government institution it is necessary for the retailers to sustain and make deals with local buyers in order to attract more customers. Furthermore, retailers should pay the suppliers on time for maintaining good relationship with suppliers and future business. Retailing industry must be introduced and developed training and knowledge-sharing mechanisms to enhance the capabilities and future attraction (Felix Adamu Nandonde, 2018). (Moh'd Anwer Radwan Al-Shboul, 2017) stated in his study that practices of administration od SCM activities in organization will give the efficiency of the organization. This study also found that assessment of the comprehensiveness of the manufacturing firms are under the supply chain managers with multi-dimensional operations. In addition, seven dimensions of multi-dimensional operations have been founded which effect the manufacturing side. Causal association between SCP and MFP also explored by the end of this study. Data were collected from the 249 responded of Jordanian manufacturing firm through questionnaire. After this study we got to know that those organization who really willing to stable themselves in the competitive markets are need to work on the supply chain vehicle. Also, we analyzed after this research that supply chain also act as a vital part in the economy side as well so organizations who are seeing their future in this evolving era need to work on the manufacturing side of the supply chain. The methods for improving distribution and logistics supply chains inside the retail sector of food was investigated by (Min, 2004). It incorporated the ideas of supply chain and logistics along with the new difficulties in the retail sector of food. The paper determined that business to-business and web-based business were

the methods for what's to come. The paper examined the victories and disappointments of the business. Its outcomes uncovered moderate advancement in achieving the objectives of leaner supply chains and simpler delivery. Lately, makers, wholesalers and retailers have come to search the other method of cooperating which they needed. The paper proposed that at first, to demonstrate the cognition why these accomplices need better approaches for supply chains and distribution a foundation must be given with respect to these business questioning in the organizations. The paper has additionally sketched out the ideas of explored problems and afterward demonstrated in a retailed food organization who is managing variations in its inventory and logistics network. By this organization the paper has appeared old method for getting things done and the progressions being made to convey the framework exceptional. The paper has been finished up by discovering that they were so moderate in defining the advanced framework model of circulating, stock and introduce it in to the current markets. The exploration arrived at the resolution that, as organizations look of fresh chances is decrease the costs and enhanced the proficiency in operations, and have turned into a significant resource in cultivating gainfulness. Whereas, re-appropriating associations empower producers to improve their money related execution and market intensity, they raise imposing production network and strategic issues. Sweep based exchanging is a cutting-edge store network the board procedure that utilizes purpose of-offer output information for settlement drive, recharging besides advancement among providers. Members practiced deals development expands, blunder cost free invoice and installment, and critical operational reserve funds for the two providers. This execution plus utilization of the exposed, all-inclusive utilized UCC models for electronic correspondence and bar codes will empower sustenance administration organizations to profit by quicker, progressively exact and at last more financially savvy supply chains. Driven by a changing mechanical advancement, more noteworthy globalization inside the business, the main sustenance administration makers, merchants and administrators have met up to help build up an improved store network framework that would profit all associations engaged with nourishment administration. The paper has likewise proposed a few hints for improving logistics activities which include: Improving administration and staff execution, improving data

frameworks, improving estimating and acquirement and improving circulation and so on.

Green stores in food retailing are having positive impact on one each other and it is revealed by the past researches regarding environmental and economic performance. In a self-administrative survey happened in Croatian food retailers participated 190 responded. The identified variables are tested using structural equation model. Environmental and economic performance outcomes are studied in this study. This study is having the first empirical analysis in the context of food retail. Normally, collection of information from eastern and western countries is immobile rare as the representative sample in food retailers in Croatia is distinctive. Eventually, GSCM is very vast field and the operational practices of GSCM is moving in to 3 sides (Kristina Petljak, 2018). (Chong Felix, 2011)distinguished the important appraisal criteria for retailer store network capacity from the viewpoint of outside nourishment producers, in a developing business sector setting, and assessed the improvement dimension of Russian retail chains in this circle. The creators utilized analytic hierarchy process (AHP) for the demonstrating and research technique, with an exploratory workshop for the detail of the model structure, an online survey for need weight advancement, and semi-organized meetings for the approval of results. A sustenance fabricating based center gathering took part in the displaying procedure. A four-level capacity appraisal display was made, with operational evaluation criteria apportioned into the board, logistics or promoting classifications. The outcomes demonstrated that administration related criteria had a prevailing job in surveying the store network capacity of a retail chain organization. Moreover, the need weight of logistics ability was just to some degree higher in contrast with advertising capacity, in spite of the fact that it was positioned altogether lower in contrast with the executive's ability. Operational dimension criteria loads were likewise given. As far as the assessment of Russian retailers, the outcomes demonstrated the slight strength of logistics ability over advertising. The exploration depended on an AHP procedure with a center gathering dialog, inferring a restricted dimension of generalizability to different settings. This exploration gave viable understanding on the best way to survey retailer store network ability as a rule, and depicted the dimension of advancement of different capacities and practical

territories among Russian sustenance retailers. This exploration gave a system that might be utilized in Russia and other developing business sector settings to evaluate the ability of retail accomplices in the views if retail market. The point of the examination was to distinguish the significant appraisal criteria for retailer store network capacity in a developing business sector setting. In view of the writing audit, it was presumed that between hierarchical coordinated efforts might be considered as the inventory network usual way of doing things of decision from the maker's perspective. Further, it was reasoned that advertising and logistics capacities were among the key segments in an advanced retailer store network ability evaluation display. A four-level various leveled model of evaluation criteria was refined. This gave operational dimension knowledge into what adds to retailer production network capacity, and furthermore present-day retail rehearses. The outcomes showed the predominant job of the administration related criteria in surveying the store network ability of a retail chain organization. Albeit earlier writing perceives the executives as a relevant factor, its predominance is maybe astounding, considering the way that this examination was centered around the most current retail on-screen characters in Russia. Further, the outcomes demonstrated that while altogether lower in contrast with the board ability, the need weight of the logistics capacity was just to some degree higher in contrast with the advertising ability.
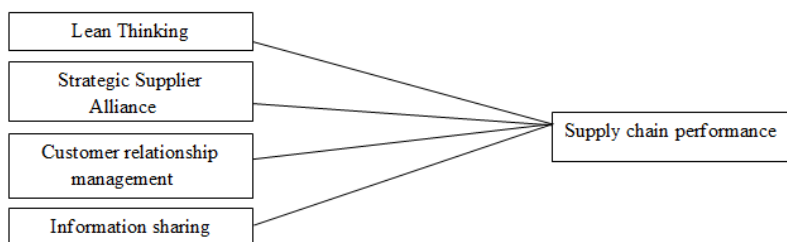


A research of (Aghazadeh, 2004) on food retail industry in which he identified and discussed workable methods of enhancing logistics and distribution supply chains. Furthermore, the ideas of logistics and supply chain he introduces in his research also talked about facing advancements. This research also drives the future importance and market of e-commerce and b2b market while highlighting the success

and failure of the industry. The result of the paper disclosed the leaner supply chain and easier distribution in terms of its slow progress and accomplishment. As organization are turning towards the cost cutting scenario and targeting new opportunities to improve operational efficiency while reducing cost. Moreover, firms are working to improve their relationships with their supplier base activity to improving profitability. During outsourced partnership sanction manufacturers upgrade its market and finance. Settlement of scanned data, promotions and replacement between retailers and suppliers these all are included the process of scan-based trading which is supply chain management of next generation. Expanded growth in sales experienced by participants, invoicing and payment with free of error, and operational saving with significance. The purpose to make the services supply chain most cost-effective, faster and more accurate food service companies is now implemented. As far as world is globally moving faster with the technological advancement and innovation, so for this retail food industry have to except all the changes which is driven in retailing food industry and also, they should supply chain process for greater results. Performance management in the process of entire process is an expensive point because it introduces the concept of tracing and tracking of potency and coherence collapse and which gives the more thoughtful decision analysis. In addition, due to the existence of multiple input and output in the systems the choice of choosing suitable performance indicator of production process of supply chain is become crucial. Therefore, the concept of this research thesis is to introduce the concept of conceptual model in an agriculture side of SCM of food.

A study was conducted in Germany, in the farm of tomatoes. This study gives the view of supply chain of tomato in Germany. In this thesis paper, it has been summarized that there are four indicators to evaluate the performance measurement i.e. responsiveness, food quality, flexibility and efficiency. These four-performance evaluators are identified an important component (Felix Adamu Nandonde, 2018). This research talked about the complexities in the supply chain retail. This case gives the detailed view of the data sharing and Strategic actions will be the result of research complexation and the action will take by practitioners. Visibility of data and information sharing with or without will result the model of retail supply chain by system dynamics simulation. Understanding

the effects of data visibility for the retail supply chain performance measures is proposed. Before business process changes use of system dynamic modelling can be very effective for the analysis of what-if type. Whether the complexity is in favor or against the business, the retailer should consider it and work on it. The reason of writing this paper is to encourage the future researcher to explore more aspect of retail supply chain. According to the (Baykasoglu, 2016) this approach can be useful for the analysis of what-if type and its practices. Also, this approach supports strategic decision-making process. Grocery retailing developed a framework for this research. The writer's agenda for this research is to pinpoint complications in a comprehensive architecture. The authors inspected main points of SCM and planning of the targeted sales. This research built a unified framework. Taking personal interviews among the twenty-eight European grocery retailers. The outcome of this research according to (Alexander H. Hubner, 2013) is that retailers should build the coherent demand among their customers and make them convinced towards them. Also, they should build strong communication relation among their customer in order to attract them for any future product and services. Although, applies of supply chain is quite crucial in reference to run the functions of any organization smoothly.

## 3. Research Methodology
### 3.1 Hypotheses
$H_{a1}$: There is a significant relationship between strategic supplier alliance and supply chain performance.

$H_{a2}$: There is a significant relationship between customer relationship management and supply chain performance.

$H_{a3}$: There is a significant relationship between information sharing and supply chain performance.

$H_{a4}$: There is a significant relationship between lean thinking and supply chain performance.

$H_{a5}$: There is a significant impact of strategic supplier alliance, customer relationship management, information sharing and lean thinking on supply chain performance.

### 3.2 Research Design
The research intends to uncover solution of the real business problem using the theory and data through statistically analyzing data

(Alexander H. Hubner, 2013). The research is causal by type and the population of present study are the professionals presently working in retail food supply chain of Pakistan. The size of sample of this research is approximately 15% of the total population which is 300; due to the issue of trustworthiness, convenience and also the population is unknown, for the resolution of the sample size no statistical technique or formulae can be used (Sauders, 2009). In this study, method of convenience random sampling is undertaken. Two major areas of retail food supply chain can be easily identified which are retail food chains and restaurants, but there is no list of participants available and it is not possible to find the exact no. of supply chain professionals working in retail food supply chain industry of Pakistan, due to non-regularity and data availability. Moreover Jie & Gengathaen (2017) had designed survey instrument, the instrument was adopted from previous researches to quantify the special constructs of the processing practice of SCM. The instrument comprises of questions related to each independent and dependent variable. The answers to the questions were coded on five-point Likert scale 1 = strongly disagree, 2 = Disagree, 3 = neither agree nor disagree, 4 = Agree and 5 = strongly Agree in the all the variables. Present study data is collected using survey questionnaire, respondents were asked to fill the questionnaire according to their experience and knowledge. The questionnaire was spread using both physical and electronic means of communication like internet.

### 3.3 Data Analysis

Validity is defined as the ability of a questionnaire to measure what it intends to measure. The instrument must include a set of items to ensure that it tap the concepts in order to be valid (Sekaran, 2003). For instrument to be valid and consistence, the outcomes of Cronbach α should be the values in the range of 0.60–0.87, however value between 0.50–0.60 is considered sufficient, as far as this study counted as exploratory. According to the research of (Coakes, 2005) analysis of factor is a data reducing technique which is used to minimize the high valuing method to a low extent of original variables that concluded the vital material which have variables. The study used exploratory factor analysis based on principal component analysis to identify factors from different items of each construct i-e Independent and dependent variables under study. Each factor is

tested specifically in order to quantify the products. Further, to measure the relation among two different variables correlation analysis is used (Sauders, 2009). Multiple Regression analysis is used in this study to forecast dependent adjustable value through several independent variables. It also explained the change in independent contrast can be occurring due to dependent variables. The co-efficient of determination ($R^2$) shows the degree of prediction which your regression equation can find. The purpose of co-efficient can take any value between $\pm 0.01$ to $\pm 1.00$ (Sauders, 2009).

## 4. Result and Discussion

Demographic factors are illustrated in Table 4.1. The demographic factors include experience, age, marital status, gender and education. From the table above, it is observed that the 1-3-year experience holders contributed 41% in participating in this survey as compared to other all, most of the respondents are in 20-25 years of age who participated in the survey. Tt can be seen that 46% and 37% among the total respondents who participated in this survey, hold master's and bachelor's degree which indicates the high level of literacy of the participants. Further details of the demographic distributions are explained in the table.

**Table 4.1**

| Particulars | Categories | No | % |
|---|---|---|---|
| Experience | Less than 1 year | 50 | 19% |
| | 1-3 years | 110 | 41% |
| | 4-6 years | 45 | 17% |
| | 7-9 years | 25 | 9% |
| | 10-12years | 25 | 9% |
| | 13-15 years | 5 | 2% |
| | Over 15 years | 10 | 4% |
| Age | 20-25 years | 110 | 41% |
| | 26-30 years | 95 | 35% |
| | 31-35 year | 35 | 13% |
| | 36-40 years | 5 | 2% |
| | 41-45 years | 15 | 6% |
| | 46-50 years | 10 | 4% |
| Education | Matric | 5 | 2% |
| | Intermediate | 25 | 9% |
| | Bachelors | 100 | 37% |
| | Masters | 125 | 46% |
| | Other | 15 | 6% |

| Marital Status | Married | 120 | 44% |
| | Un Married | 150 | 56% |
| Gender | Male | 180 | 33% |
| | Female | 180 | 67% |

Table 4.2 presents the reliability analysis of the items with Cronbach's alpha value of each dependent and independent variable used in this research. The findings show that Cronbach's Alpha values of all variable's items are more than 0.5 which means that all are significant and reliable for further process.

**Table 4.2**

| Variables | No. of items | Cronbach's alpha |
|---|---|---|
| Lean Thinking | 5 | .823 |
| Strategic Supplier Alliance | 5 | .846 |
| Customer relationship Management | 4 | .871 |
| Information Sharing | 3 | .833 |
| Supply Chain Performance | 6 | .801 |

Table 4.3 illustrate factor loading of each construct of IV and DV, it shows how every possibility loads into the component of relativeness. Factor loading value should be greater than 0.40 of each item into its relative principal component. There are total 23 components as a whole, while 5 of it are for lean thinking, strategic supplier alliance also consists of 5 items, 4 items are belonging to management customer relationship and information sharing is consist of 3 items. There are total 6 items constructing supply chain performance. As per the standard and rules factor loading values among all components range from 0.481 to 0.856. All values are automatically above 0.40 which mean no cross leading were ignored because of the value less than 0.40 criteria. Overall, this result satisfies the analysis criteria in every aspect.

**Table 4.3**

| Rotated Component Matrix | | | | | |
|---|---|---|---|---|---|
| Items | Factor 1 | Factor 2 | Factor 3 | Factor 4 | Factor 5 |
| LT1 | .706 | | | | |
| LT2 | .526 | | | | |
| LT3 | .761 | | | | |
| LT4 | .762 | | | | |
| LT5 | .771 | | | | |
| SSA1 | | .937 | | | |
| SSA2 | | .507 | | | |

| | | | | | |
|---|---|---|---|---|---|
| SSA3 | | .582 | | | |
| SSA4 | | .856 | | | |
| SSA5 | | .825 | | | |
| CRM1 | | | .571 | | |
| CRM2 | | | .825 | | |
| CRM3 | | | .751 | | |
| CRM4 | | | .541 | | |
| IS1 | | | | .795 | |
| IS2 | | | | .737 | |
| IS3 | | | | .882 | |
| SCP1 | | | | | .585 |
| SCP2 | | | | | .882 |
| SCP3 | | | | | .768 |
| SCP4 | | | | | .657 |
| SCP5 | | | | | .564 |
| SCP6 | | | | | .788 |

## Correlation and Regression Analysis

Table 4.4 exemplifies the result of correlation test. From the table it can be found that there is a moderate relation among lean thinking and the performances of supply chain, with the p value is equal to 0.000 at 0.05 confidence interval level (2-tail) which indicates that the relation is substantial, this result supports $H_{a1}$:There is a significant relationship between lean thinking and supply chain performance in retail food industry. The result also indicates that lean thinking and supply chain performance have positive relationship that means cumulative lean thinking will increase supply chain performance. lean thinking is related to improving supply chain performance using several measures, this include lead time reduction, reduced cost, improved quality leading towards improved profit and better productivity resulting in greater customer service (Kashyap, 2011).

**Table 4.4**

| Pearson Correlation | | | | | |
|---|---|---|---|---|---|
| | | LT | SSA | CRM | IS |
| **SCP** | Coefficient | .582** | .838** | .488** | .678** |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 |
| | N | 270 | 270 | 270 | 270 |

** Correlation is significant at 0.05 level (2 tailed); LT= Lean thinking; SSA= Strategic supplier alliance; CRM= Customer relationship management; IS= information sharing; SCP= Supply chain performance

Table 4.4 also demonstrates another correlation test result, it has been founded that here is high relation among strategic supplier alliance and supply chain performance, the p value is equal to 0.000 at 0.05 confidence interval level (2-tail) which indicates that the

relations is substantial, this result supports $H_{a2}$:There is a significant relationship between strategic supplier alliance and supply chain performance in retail food industry. The result also indicates that strategic supplier alliance and supply chain performance have optimistic relationship which means increasing strategic supplier alliance improves supply chain performance. It can also be seen that there is a low correlation between the management of customer relations and performance of supply chain, the p value is equal to 0.000 at 0.05 confidence interval level (2-tail) which indicates that the relationship is significant, this result supports $H_{a3}$:There is a significant relation between management of customer relation and performance of supply chain in retail food business. The result of another relationship can be seen in table which is that there is a moderately high relation among information sharing and supply chain performance, the p value is equal to 0.000 at 0.05 confidence interval level (2-tail) which indicates that the relationship is significant, this result supports $H_{a4}$:There is a significant relation among information sharing and supply chain performance in retail food industry. The result also indicates that information and the performance of supply chain have positive relation. Sharing the information is related to making information visible and providing information to other festivities in the value chain permit quicker and correct occupational verdicts that turn as a cause of modest gain (Moberg, 2002).

Table 4.5 illustrates the degree of goodness fit of regression in the model summary of result section. The R value is (0.639), which indicates that there is a moderate high correlation among information sharing, lean thinking, long term supplier alliance, customer relationship management and supply chain performance in retail food industry. The value of R2 is (0.559) which states that there is only 55.9% of variation in dependent variable that is supply chain performance which can be explained by all the four-independent variables in this regression model. It is also observed that Significance F value is less than 0.000 which states that the combined effect of all the independent variables is significant.

**Table 4.5**

| Regression Model & Coefficients Summary | | | | | | |
|---|---|---|---|---|---|---|
| Model | R | | R Square | Adjusted R Square | F | Sig. |
| 1 | .639ª | | .559 | .534 | 67.338 | .000b |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .536 | .283 | | 1.893 | .060 |
| | LT | .563 | .342 | .503 | 3.812 | .000 |
| | SSA | .832 | .482 | .798 | 2.333 | .000 |
| | CRM | .409 | .392 | .400 | 4.925 | .000 |
| | IS | .602 | .232 | .592 | 2.495 | .000 |
| a. Dependent Variable: SCP | | | | | | |

The results in Table 4.5 illustrate the details of the assessed coefficients and significance level of all the independent variables. For lean thinking, long term supplier alliance, customer relationship management and information sharing, the table shows coefficient values of (0.563), (0.832), (0.409) and (0.602) respectively. So, for every unit increase in lean thinking, strategic supplier alliance, customer relationship management and information sharing, a unit increases in supply chain performance. In conjunction to this if we analyze the significance values p=0.000, p=0.000, p=0.000, p=0.000 of information sharing, lean thinking, long term supplier alliance and customer relationship management respectively, the results provide evidence that there is a significant and positive impact of information sharing, lean thinking, long term supplier alliance and customer relationship management on supply chain performance. According to the results obtained, regression equation is as follows:

SCP = 0.536 +0.563(LT)+0.832(SSA)+ 0.409(CRM)+0.602(IS) +e

Here 0.536 is the value of constant, 0.563, 0.832, 0.409 and 0.602 are elasticizes of lean thinking, long term supplier alliance, customer relationship management and information sharing respectively. SCP refers to supply chain performance that is our dependent variable, whereas e is error term.

Prior to this research several researches have been directed to study performance of supply chain in diverse countries of the world. This learning objects to regulate the influence of supply chain

practices on supply chain performance in retail food industry of Pakistan. The finding of this study indicates there is a significant and positive impact of supply chain practices on the supply chain performance. The findings of the current research are consistent with the research of (Shradha Ashok Gawankar, 2017), conclusion of this research is that partnerships among suppliers in the retail industry are significant along with maintaining the sustainability of that partnership. According to (Gengatharen, 2018), supply chain performance and the quality of information sharing and lean thinking having statistically significant relationships and will produce more production. Systems who are thin and slanders have the greater coefficient value and also give the suggestion that the retail industry should focus on thinking in thin lines. Truly, positive and significant impact have been founded of this thin thinking. But on the other hand, having wrong information can also increase the wastage of foods and it will all cost the main shareholders. Although, this research focus on the transparency in thinking and it will reduce the wastage of anything and also it will have the significantly positive impact. If the stakeholders work efficiently and effectively so it will reduce the needless costs and other trashes in the retail industry of supply chain. In contrast, sharing quality information will result in better implications of the supply chain process and performance. And this will provide wider podium for the partners of SCM where they can share the quality knowledge. Problem solving scenarios should be focused in order to relieve the emerging problems. Moreover, retailers should take initiatives and adopt the advanced practices and process of supply chain in context of enhancing valuable knowledge. The study of Ali (2018) also gives the idea that the process and practices of supply chain in the organizations are very fruitful and they bestow the organizations with highly remarkable progress.

## 5. Conclusion

Retailing industry of Pakistan has huge potential and it is a very big sector which constitutes almost thirty three percent share in the economy and contributes around eighteen percent in the total gross domestic product (Aghazadeh, 2004). Retail sector of the Pakistan industry is very huge and it is having very rapid growth due to the increase in population and awareness. Management of supply chain provides the retail industry of Pakistan a very huge platform and

gives the foundation of the domestic products and similarly, supply chain practices give a success line for these implications. The reason behind this study is to examine the practices of supply chain and their impact on supply chain performance in the Pakistan retail food business. This provides hypothetical and experimental guidance on how supply chain policies can be used successfully and how their effects can be increased on SCM.

For evidence, the findings in this study indicate that all the practices of supply chain including lean thinking (LT), strategic supplier alliance (SSA), customer relationship management (CRM) and information sharing (IS) have substantial influence on supply chain performance in retail food industry of Pakistan. Further it is identified that the key factor that affects supply chain performance in Pakistan's retail food business is strategic supplier alliance because of the highest percentage of coefficient followed by information sharing, lean thinking and customer relationship management. This study fills the potential gap in the literature by undertaking research on these supply chain strategies. Thus, in a situation of decision-making, theoretical perspective of potential deployment of supply chain strategies will be available as a means to achieve higher or better supply chain performance.

From research implementation and significance viewpoint, this research will support retail food supply chain managers in supply chain strategy deployment, decision making process, opting for best supply chain strategy that should be used through detailed consideration after considering all the strategies. The study will help in managing and promoting the culture of relationship among supplier and the other supply chain partners as it is vital for managers to boost their supply chain performance. The study has great importance as its benefits supply chain managers, especially those who are aiming to increase supply chain performance. Thus, it is useful for the managers to get the knowledge of these implications.

## 5.1 Future Recommendation and Limitation

This paper is a bit specific as it attempts to judge the supply chain management strategies that affect only retail food authorities of Pakistan but it is recommended for the future researchers to base this finding of supply chain management strategies and their effect on the operational performance of the firm in terms of supply chain to

discover their impact on all the sectors or any other particular sector companies.

In addition, this research presents strong support that performance of supply chain in retail food business, to the great extent, can be determined by lean thinking (LT), strategic supplier alliance (SSA), management of customer relationship (CRM) and sharing precise information (IS) and it shows that the variables are limited in this research, but it is recommended for the researchers in the times to come Togo for finding new aspects for the sake of exploring other sides of many other unexplored variables which should be studied to better improvise the performance of supply chain in all the industries.

Furthermore, implication of this survey is limited in the premises of Karachi city only but there exists a great opportunity for the upcoming researchers on the relevant topic that they can explore the different sectors of the retailing industry for the betterment of supply chain processes in the other cities of Pakistan.

This research is conducted in a country where the supply chain management is in its emerging phase. The unfortunate causes at the back of this are lack of advancement, regulation and management culture. Many companies have been facing difficulty because they do not have functionality of supply chain; they still work in stagnant cultural approach which restricts and hinders its overall progress and development.

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