Impact of Supply Chain Management Strategies and Practices in the Textile Retail Sector in Islamabad, Pakistan

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Abstract: *This research was conducted to investigate the impact of supply chain management strategies and practices on the retail supply chain performance specifically focusing on textile or apparel industry. For Sample selection we chose systematic random sampling method and a list of 120 retail stores located in Islamabad was developed. Data was collected from every second store on the list using a survey questionnaire, giving a sample size of 60 managers of textile retail stores. The data accumulated was analyzed by performing different statistical tests, reliability, mean, correlation, standard deviation and regression. The findings showed that supply chain practices have an impact on retail supply chain performance statistically but, supply chain strategies do not have an impact on retail supply chain performance. However, supply chain strategies and practices are significantly related to each other.*

Keywords: *Supply chain management strategies, supply chain management practices and retail supply chain performance.*

I. INTRODUCTION

In this globalized era, consistency in responsiveness to customers' predilections is a major obstacle being faced by most organizations. To provide better satisfaction to their customers, organizations are implementing different business strategies to absorb the change in this environment. One of the strategies that is being adopted and should be highlighted and investigated is the supply chain strategy. Supply chain strategies are one of the crucial strategies to be studied for increasing the performance of the supply chain (Hanson, Melynk, & Calantonr, 2011). Additionally, we have also tried to examine the influence of supply chain practices on supply chain performance in this study. However, present studies available mostly focus on the manufacturing sector (Kazi & Nazmul Ahsan, 2014). Therefore, research needs to be conducted in other industries and sectors with regards to supply chain. One area of focus is the retail or apparel sector, in which the influence of supply chain strategies on retail supply chain performance can be observed (Rana, Osman,

Bahari, & Solaiman, 2015). Our study's main research objective is to investigate the influence of supply chain strategies and practices on the performance of retail supply chain.

II. LITERATURE REVIEW

A. Supply Chain Strategy

Supply chain strategies deal with issues, from acquisition of raw material, operations, production, manufacturing finished goods or services, conveyance and delivery, to and from all supply chain members including company, manufacturers or producers, suppliers, distributors and customers as well as maintenance and follow up services, be it out-sourced or in-house (Qi et al., 2011). The retailers supply chain management strategy refers to strategic targets, aims and objectives defined by the retailers in light of their supply chain (Rana et al., 2015). (Naylor, Naim, & Berry, 1999; Towill & Christopher, 2002) proposed three supply chain management strategies that influence supply chain performance i.e. agile, lean and hybrid strategy.

The objective of an agile strategy is to be flexible and responsive to changing customer needs (Jacobs & Chase, 2008; H. Lee, 2002b). This strategy is most suitable for products whose demand nature is uncertain (Ayers, 2006; Seuring, Goldbach, Schneidewind, & Muller, 2003; Towill & Christopher, 2002) and is used in instances where time compression and quick response are a priority as it assists in removing barriers from responsiveness (Christopher, 2003).

The lean strategy is implemented when the goal is to minimize expense and wastage (Vitasek, Manrodt, & Abbott, 2005). This is accomplished through removing all activities that do not add value, implementing scale of economies, optimizations systems and practices to attain optimal capacity utilization for production to delivery (Jacobs & Chase, 2008; H. Lee, 2002).

When organizations requirements equally need agile and lean supply chains they implement a hybrid supply chain (Towill & Christopher, 2002). Hybrid (also known as leagile) supply chain utilizes a framework that follows both the approaches from agile and lean supply chain strategies (Mason-Jones, Naylor, & Towill, 2000) to subsequently reap the advantages of both supply chains (Towill & Christopher, 2002).

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B. Supply Chain Practices

Supply chain practices refer to all activities and processes performed by an organization to increase the efficiency and effectiveness of its internal supply chain (Ibrahim & Hamid, 2014). They include both upstream and downstream members of the supply chain (Li et al., 2006). (Li et al., 2005, 2006, Sukati et al., 2011, 2012; Thatte, 2007) in their studies have depicted supply chain practices with regards to three dimensions i.e. Strategic supplier partnership, customer relationship, and information sharing. Our study is also done keeping in mind the same mentioned three dimensions of supply chain practices however we focus on only two dimensions i.e. supplier partnership management and customer management.

(Li et al., 2005, 2006; Monczka, Peterson, Handfield, & Ragatz, 1998) define strategic supplier partnership as a long-standing relationship among a company and its suppliers which positively influences the strategic and operational capabilities of the participants providing them ongoing benefits. A strategic supplier partnership is one that has a positive influence on the supplier i.e. increases supplier's operational abilities and improves supplier's system, includes procurement and acquisition of products or services and ultimately enhances overall supply chain performance (Monczka et al., 1998; M. Q. Sufian, 2010).

Customer relationship management is the key and most critical component of a supply chain (Gharakhani & Hamidi, 2012). Customer relationship includes all practices that are required to effectively build continuing and ongoing customer relations, manage customer queries or complaints and enhance customer satisfaction (Li et al., 2006). A company's customer relationship practices can facilitate organizational success and efforts leading to increase organizational performance (Ellram, 1991; Scott & Westbrook, 1991; Turner, 1993).

C. Supply Chain Performance

To evaluate retail supply chain performance, as per (Beamon, 1999; Gunasekaran, Patel, & Titioglu, 2001; Ho, Xu, & Dey, 2010) we have focused on performance of the supply chain in terms of its operations and specifically appraised it in terms of two dimensions i.e. responsiveness and efficiency. SCOR model and balanced SCOR model have also confirmed these two dimensions to be used to gauge the performance of a supply chain (Rana, Osman, Bahari, & Solaiman, 2015).

How quickly and to what extent a supply chain can handle any deviations or variations in the customer's demand (Holweg, 2005; Lummus, Duclos, & Vokurka, 2003; Prater, Biehl, & Smith, 2001). Presently, customer demand is at its peak because of which timely delivery and availability of products or services is of great importance. This has generated peculiar need for volume flexible response (Vickery, Calantone, & Droge, 1999). An organization whose supply chain responsiveness is high provides competitive advantage and in the long run has a progressive effect on the overall performance (Qureshi & Compeau, 2009). Thus, organizations should adapt flexible and highly responsive supply chains to gain competitive advantage in this changing business environment (Moore & S.M.R., 1996).

Supply chain efficiency can be defined in terms of supply chain performance, cost and a blend of the two (Ayers, 2006). When referring to supply chain performance, efficiency of a supply chain may refer to high customer satisfaction and timely delivery. Thus, organizations must be both cost centric and customer-focused. Furthermore, an efficient supply chain requires complete coordination and incorporation of all members within the supply chain network to minimize costs (Ayers, 2006).

H1: Supply Chain Strategies positively influences Retail Supply Chain Performance.

H2: Supply Chain Practices positively influences Retail Supply Chain Performance.

Source: (Ibrahim & Hamid, 2014; Rana et al., 2015; Sukati et al., 2011)

III. METHODOLOGY

The sampling technique used was systematic random sampling. We prepared a list of one hundred and twenty (120) retail stores in Islamabad and gathered information from every second store. Thus, the sample size of the study was sixty (60) employees (lower to mid-level managers) working in the textile sector of Islamabad, Pakistan. Structured questionnaires were used for data gathering and collection. (Ambe, 2013) proposed reliable and valid instrument to measure supply chain strategies impact on supply chain performance. While, (Sukati et al., 2011) proposed reliable and valid instrument to measure supply chain practices impact on supply chain performance. A few selected sections of the above-mentioned text and proposed instruments have been adopted in this research.

We performed pilot test of thirty respondents from selected textile retail stores. The results of the test findings denoted reliability of all items within the range ($\alpha=0.68$ to 0.789), showcasing that all variables under study have a high level of internal consistency (Nunnally, 1978; Peng, Schroeder, & Shah, 2008).

IV. RESULTS AND FINDINGS

A. Demographics Test

Table-1: Demographics Test Results

N	60
Gender	
	Frequency
Male	58
Female	2
Education Level	
College/Diploma	17
Bachelor's Degree	36
Masters	7
PHD	0
Category of Job	
Management Level Top	14
Middle	46
Low	0
Duration of Job	
1-5 Years	50
6-10 Years	7
11-15 Years	3
Over 15 Years	0

From above table it can be observed that:

- For Gender variable, we had a response of 96.7% (n=58) males and 3.3% (n=2) females of the total respondents (n=60).
- For Education Level variable, we had a response of 28.3% (n=17) from College/diploma respondents, 60% (n=36) from Bachelor's degree respondents, 11.7% (n=7) from Master's degree respondents and 0% (n=0) from PHD respondents of the total respondents (n=60).
- For Category of Job variable, we had a response of 23.3% (n=14) from Management level top respondents, 76.7% (n=46) from Middle level respondents, 0% (n=0) from Low level respondents of the total respondents (n=60).
- For Duration of Job variable, we had a response of 83.3% (n=50) from respondents with the organization for 1 to 5 years, 11.7% (n=7) from respondents with the organization for 6 to 10 years, 5% (n=3) from respondents with the organization for 11 to 15 years, and 0% (n=0) from respondents with the organization for over 15 years, of the total respondents (n=60).

B. Descriptive Statistics Test

Table-2: Descriptive Statistics Test Results

	N	Mean	Std. Deviation	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic
STR	60	3.1885	.55514	-.457	2.551
PCT	59	3.6356	.64588	-.869	2.730
PER	60	3.6000	.68316	-.608	1.598
Valid N (listwise)	59				

As apparent it is observed that the mean value is more than 3. The standard deviations are less meaning there is not much deviation from the mean values. The data is skewed since the value of skewness showed fall between -1 to +1. Kurtosis value should fall between -3 to +3, and the results of descriptive statistics fall between these values.

C. Reliability Test

Table-3: Reliability Tests Results

Variable	Number of items	Cronbach Alpha
STR	13	.748
PCT	10	.815
PER	9	.798

As apparent from the table above, supply chain strategies consisted of thirteen (13) items with calculated Cronbach's alpha value 0.748 (i.e. $\alpha = 0.748$), supply chain practices consisted of ten (10) items with calculated Cronbach's alpha value 0.815 ($\alpha = 0.815$) and retail supply chain performance consisted of nine (09) items with calculated Cronbach's alpha value 0.798 ($\alpha = 0.798$).

It is observed that, Cronbach's alpha values for all values are greater than 0.7. Therefore, the instrument was deemed reliable for data collection.

D. Correlations Test

Table-4: Correlation Tests Results

	STR	PCT	PER
STR	1	.594**	.486**
PCT	.594**	1	.606**
PER	.486**	.606**	1

As per Pearson correlation, all the variables in the study are positively correlated and significant. Retail supply chain performance has moderate to strong correlation with supply chain management practices ($r = 0.606$, $p < 0.05$) and weak to moderate correlation with supply chain management strategies ($r = 0.486$, $p < 0.05$). While, supply chain management practices have moderate correlation with supply chain management strategies ($r = 0.594$, $p < 0.05$).

Although the correlations among the variables range from moderately weak to moderately strong, however the positive and significance correlations show the variables are in fact associated and have proportionality among them. So, if one variable increases the other may also increase.

E. Regression Tests

The hypotheses (H1 and H2) state that supply chain management strategies and supply chain management practices are positively associated with retail supply chain performance.

The value of R-square ($R^2 = 0.391$) shows that the variation in the dependent variable retail supply chain performance because of the independent variables supply chain strategies and practices is 39.1%.

As per the performed F-test to

check the model fitness, it has been observed that the model was fit for regression with significance value less than 0.05 ($F=17.949$, $p<0.05$).

The beta (B) is the rate of change between the variables. The beta calculated between supply chain strategies and retail supply chain performance ($B=0.235$) shows that with one unit change in supply chain strategies will cause 0.235 units change in retail supply chain performance. The beta between supply chain practices and retail supply chain performance ($B=0.523$) shows that with one unit change in supply chain

practices will cause 0.523 units change in retail supply chain performance.

The results for t-test of H2 ($t=3.796$, $p<0.05$) shows that the t-value is significant. Thus, our hypothesis is valid and accepted. This also shows that there exists a positive relationship between supply chain practices and retail supply chain performance. However, the results for t-test of H1 ($t=1.474$, $p<0.05$) shows that the t-value is insignificant and therefore, the hypothesis is rejected.

Table- 5: Multiple Regression Test Result

Hypothesis	IV	DV	R ²	B	t-test	F-test	Sig.
H1: Supply Chain Strategy positively influences the Retail Supply Chain Performance.	STR	PER	0.391	0.235	1.474	17.949	0.00
H2: Supply Chain Practices positively influences Retail Supply Chain Performance.	PCT	PER		0.523	3.796		

F. Discussion of Results

Within this research we had proposed two hypotheses i.e. H1: Supply chain strategies have a positive impact on retail supply chain performance (Rana et al., 2015). However, our findings were unable to prove this hypothesis. Thus, it has been rejected. We would like to add that this is a relatively new theory observed by (Rana et al., 2015); although literature with regards to the manufacturing industry does exist, research in retail supply chain is very scarce (Rana et al., 2015) and specifically textile industry is even more so.

H2: Supply chain practices have a positive impact on retail supply chain performance. Proven by our findings and previous literature, this proposed hypothesis has been accepted. (Sukati et al., 2011) states that supply chain practices do have positive impact on supply chain performance and better supply chain practices do lead to responsiveness and competitive advantage. However, our research was limited to the consumer good industry.

We would like to highlight an interesting fact observed during analysis. Although we were unable to support our hypothesis (i.e. H1: supply chain strategies have a positive impact on retail supply chain performance) with findings, we observed that supply chain management strategies are moderate to strongly associated with supply chain management practices. We would like to suggest this association be further investigated.

V. CONCLUSION

According to the results of this research, retail supply chain performance is affected by supply chain practices but not supply chain strategies. There can be several reasons behind the lack of evidence to support our first hypothesis, i.e. research was limited to only two independent variables and did not take into account other factors, lack of literature, economic conditions, limited scope of research, textile sector is a relatively new and developing sector in Pakistan, list of textile retailers was not conclusive, approaches and methodologies of the textile outlets may not be disclosed to the respondents, inaccurate and biased responses to self-reporting questionnaire. Thus, we recommend that detail

and thorough research be conducted to find conclusive evidence before completely rejecting this hypothesis.

As enough evidence was found to indicate that supply chain practices do affect retail supply chain performance thus, in order to enhance performance of the retail supply chain managers should implement supply chain practices aligned with organizational strategies and goals to increase over-all supply chain performance. Supply chain management strategies must be designed in a manner that it is effectively applied into supply chain management practices (Sufian, 2010). Moreover, such strategies and practices derived by the top management must evolve and emerge in the organizational practices as well.

Lastly, we observed in our research, supply chain management strategies are related with supply chain management practices and have a positive impact on them. We would like to suggest this association be further investigated.

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