Systemic Buying Mediation between Supplier and Customer Orinetation

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ABSTRACT

In a networked environment, the ability to develop and sustain relationships with suppliers is a crucial success factor as well as a challenging task for the management of a company. The firms become vulnerable to various supply chain disruptions and risks. Thus the firms regularly measure these business risks. Besides other risks there are risk associated to the supply chain i.e. related to the suppliers, the procurement strategies, and the customers of the firms. The identification and management of these risks are therefore crucial for effective management of the supply chain. A number of researches have been conducted in the field of purchasing and supply management however very few studies have dealt with the risk management performance of supply chain. In this study a more specific approach towards the risk management has been investigated in context of supply chain through the mediation of a unique procurement approach: systemic buying. Through this strategy the study shows enhancement of the supply chain risk management performance.

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A primary data of 122 respondents was analyzed through regression with the findings of positive and significant relationships among the variables.

Keywords: supplier orientation, customer orientation, systemic buying, supply risk management performance.

1.Introduction

A firm's upstream and downstream activities of the supply chain together with its relations with suppliers and customers have significant impact on the firm's revenue generation, business growth, sustainability, and competitive role in the market. Organizations therefore, not only focus on the development of their strategies to ensure the smooth &uninterrupted flow of these purchasing and supply activities but also take keen interest in the performance enhancement of the organizations. A typical supply chain has three sets of main activities including upstream e.g. procurements & outsourcing, operational e.g. production, and downstream activities like delivery to the customers etc. Until these broader groups of activities are synchronized, high risks will emerge and will lead towards poor risk management performance.

Procurement is a critical process and involves internal as well external steps if effectiveness & efficiency is desired. Internal aspects requiring attention are proper understanding & planning of the requirement, considering the available budgets and timely processing of the procurements etc. External steps besides other factors include identification & selection of the right & capable sources, establishing & maintaining healthy buyer-supplier relationships, collaboration, and information sharing and mutually supporting each other in identification, mitigation and controlling risks associated to the purchases / supply. The

downstream activities include understanding the customers, their requirements & meeting their expectations. This is possible when the buying firm has trustworthy relationship with the customers. Customers; those who freely exchange the information about their requirement & who are ready for collaboration with the buyers, succeed in getting the exact requirement with full satisfaction. The buyer while keeping closer to the customer as well supplier generally reduces risks associated to the supply (supply from supplier to buyer in case of raw material / services etc. and from buyer to the customer in from of the finished product / service or both as an integrated package) by meeting the requirement as per customer satisfaction. Hence, the ideal performance of supply strengthens the risk management that ultimately contributes to the risk management performance.

Any uncertainty or risk associated with these supply chain elements is seriously viewed, logically assessed and accurately handled through the risk management strategies of the organizations. These risks badly impact the company's goals / objectives and profits. Christopher and Lee (2004, page 388) argue that the supply chain's vulnerability to disturbances and disruptions has increased Organizations supply chain risk management performance is considered greatly dependent on the supply chain practices of supplier orientation and customer orientation. Moreover, systemic buying which is a complete purchase package instead of a single element results in creation of a value for the customer that diminishes or transfers the risk involved and hence is considered a medium to the supply risk management performance.

The firms, in order to gain the cost advantage are outsourcing various non-core functions so as to maintain focus on their competence (Porter 1985).

Therefore, purchasing is viewed a important function by the firms who want success in the business (zsidisin and Panelli, 2000). Organizations are focusing on coordination and supply networks development (Hallikas st al, 2004). Organizations are combining their internal core competencies and capabilities with those of the suppliers and customers for gaining an edge over the competitors (Doz and Hamel, 1998). Generally, a chunk of 40 to 70 % of the company's revenue is employed in the outsourcing of non-core activities. According to Van weele and Van der Vossen, 1998, more than 80% of the firm's cost structures could be linked with the purchasing of goods and services. These activities are vulnerable to the disturbances in supply chain and supply risk, price risk, cost & schedule risk technology risk, and quality risk and can have an effect on the risk management performance of the supply chain. As such the organizations often adopt suppliers' oriented approaches in order to eliminate, mitigate or transfer the associated risk. The downstream activities of an organization are focused on the customer satisfaction. This customer orientation also carry certain risks as the customers want their required products/services at their desired place in right quantity and quality and at the time of their choice. This causes resiliency of the networks of the supply chain (Christopher and Peck, 2004). As such the customer orientation may also influence the management performance of supply risk which is greatly dependent on its various supply chain drivers like supplier orientation and customer orientation. The companies also adopt strategies like systemic buying which integrate the products and related services in to a complete package for the ease and comfort of the customers. May act as mediate variable through which the supplier & customer orientation affect the supply risk management performance.

The study will be significant as the outcome can be helpful to the organizations for formulating their risk management strategies and ensuring smooth supply management actions through adaptation of the systemic buying which is viewed having a positive impact on the supply chain risk management performance.

1.1 Aim of the Study

This research focuses on the relationship of suppliers & customer in terms of their needs i.e. supplier orientation & customer orientation and also study this relationship with the supply risk management performance. The systemic buying is used as a mediating variable for the reason that it reduces the related supply chain risks and as such improves the risk management performance. . A number of suppliers & customers related needs do exist which require proper understanding and accordingly handling by the Business Concerns. In supply chain a business concern i.e. the manufacturing or a trading firm acts the middle with the suppliers as upstream sources and the customers being downstream sources. To improve the risk management performance of supply chain, the customers' needs are to be fully grasped by the business concern and then conveyed the same to the relevant suppliers/vendors for meeting up. These needs generally include relevant information from the customers about their requirements, exact specifications, quantities, quality, delivery and schedule etc. This is possible when the Business Concern openly communicates with the customers and shares the information. On the other hand the close coordination between the Business Concern and the Supply sources facilitate both the parties to work jointly in meeting the end user requirement without any compromise on

the quality, quantity, cost, and delivery schedule thus reducing the risk factors related to any failure or rejection.

The systemic buying integrates the requirement of the customers in to a package that caters for the complete solution of the customer needs leaving behind no risk related to failure or rejection by the customer. A turnkey basis solution can be provided through the systemic buying approach and our aim in this study was to look in to how the relationship of supplier and customer orientation influences the performance management of the supply risk through the systemic buying. .

1.2 Research Objectives

To investigate the relationship of supplier orientation and the supply risk - management performance

To investigate the relationship of the customer orientation and the supply risk - management performance.

To investigate the mediation of systemic buying on the relationship of supplier orientation and supply risk- management performance

To investigate the mediation of systemic buying on the relationship of customer orientation and the supply risk- management performance

1.3 Research Questions

- Does the supplier orientation affect the supply risk- management performance?
- Does the customer orientation affect the supply risk - management performance?
- Does systemic buying affect supply risk management performance.

- Does the systemic buying mediate the relationship of supplier orientation and supply risk management- performance?
- Does the systemic buying mediate the relationship of customer orientation and supplier risk -management performance?

1.4 Delimitation of the study

This study bases on the systemic buying as mediator. This study didn't investigate if customers may not be willing for the integrated solution and they prefer to go for the single procurements.

2 Literature Review

2.1 Supply Chain Management

Our study emphasizes on the relationship of suppliers and customers needs through the systemic buying with the risk management performance. Since, suppliers orientation, customers orientation and systemic buying (a procurement approach) all fall under the study domain of the Supply Chain Management. As such we are briefly discussing here its definition/ (s) for understanding its concepts. One of the definitions of supply chain management is, it is an integrative approach for managing the overall flow of activities taking place between the supplier and the ultimate user" (Cooper and Ellraun, 1993, P.13).

Supply Chain consists of the value adding activities those perfectly connect the suppliers of the firm to its customers. In the supply chain, input is received from the suppliers, the value is added to it, and then accordingly it is delivered to the customers or end users. Supplier refers to the external vendor or the upstream processes, where as the customer is the recipient of the final product /

service also referred to the downstream activities. The customer may also be either an external party or an end user within the same organization.

This study is focusing on the managing risk performance of supply chain. Supply chain activities both upstream and downstream, need proper attention for smooth flow in order to enhance the performance of risk management. The supply risk management includes identifying, avoiding, transferring, and mitigating the risk associated with all those sources of supply or activities of supply those may possibly cause disruptions and problems in smooth flow, desired quality, timely delivery, smooth functions, and other related aspects of the required products / services.

In this study, the procurement part of the supply chain is mainly discussed because it relates to the suppliers in upstream direction and to the customers or end-users in downstream direction. Moreover, the systemic buying approach is also an integrative procurement approach. The relationships among various supply chain elements like, supplier orientation, customer orientation, and systemic buying are being ascertained with the risk management performance of supply chain.

2.2 Supplier Orientation

Jukka Hallikas, and K.Lintukangas (2016) define the supplier orientation in the description of literature as the supplier attitudes inclined towards greater relationships are obviously linked with the supply risk". In order to maintain an uninterrupted inbound supply, discourage stock out situations, price escalations, transportation failures & production shutdowns, and ensure the end user satisfaction through meeting the requirements as per their expectations, the buyer- supplier relationships and collaboration is considered very essential.

Supplier orientation refers to the processes that enable the progress of value from raw material to final user and back to re-design and final.

Terpend et al (2008) noted that there is a process of moving from Arm's length relationships i.e. short term contracting with larger base suppliers to the greater commitment through longer term contracting, with the few suppliers, and in the form of embedded ties. This transformation was first implemented by Japanese firms and later on, evaluated by companies in the US, and other western economies. This implies greater mutual buyer-supplier assets, improved communications, knowledge sharing and effective governance mechanisms (Dyer and Singh, 1998; Dyer and Nobeoka, 2000).

A company's supplier orientation strategy includes fostering close working relationships with a limited number of suppliers, promote open communication among supply chain partners and develop long term strategic orientation to achieve mutual gains. The suppliers collaboration with respect to the risk management is very important in effective supply chain risk - management (Juttner et al, 2003).

Supplier orientation focuses on developing & maintaining healthy relationships with the suppliers. Organizations carrying supplier developing programs e.g. supplier's evaluation, communication strategies, supplier's commitment, buyer-supplier relationships, suppliers' performance, focus on avoiding or mitigating associated risks with supply and enhance the performance. Supplier orientation refers to the efforts made by the management towards creation of a conducive operational environment in which the buyer & seller has coordinated interactions. In supplier orientation, the supplier's performance is assessed in term of cost, quality, delivery reliability lead time &

timely delivery. Supplier orientation management has performance characteristics like joint efforts in the product development, maintaining minimum number of suppliers, making strategic relationships with them and focusing on the quality performance in supplier's selection. According to (Hahn, 1983) if companies place greater volume of business orders on few suppliers,they will gain benefits. This has the advantages e.g. reduced cost, gained through economy of scales (Hah, 1983) in order placement, and reduced mistrust in between the buyers & sellers (Newman, 1988).

Researchers have highlighted a number of benefits related to the supplier orientation when close relationship is maintained with limited suppliers through strategic procurement alliances.These include following:

a. Limited suppliers are easily accessible on short notice

b. There are reduced costs related to the inventory management (Trevelan, 1987) as the small supplier base together with long term relationship leads

toward JIT (just in time) purchasing (Hahn, 1983; Waters-Fuller, 1995)

c. Reduced lead times & logistics cost

d. Improved relationship (De Toni & Nassimbeni, 1999)

e. Higher trust as a result of open communication (Newman, 1988)

f. Supplier reliability (Anderson, 1994)

Treleven and Schweikhart (1988) have introduced five main classes of the risks associated with procurement and sourcing. These include risks associated with the disturbance of supply, risk related to the price, risk associated to the

stock and schedule, risk related to the expertise and quality. Autry and Golicic(2010) have found a connection between the buyer-supplier relationship and the performance of the firm. From the perspective of the risk management - performance, and that of the systemic buying, we make following propositions;

P1: Supplier orientation positively relates to the Supply Risk Management performance

P2: Supplier orientation positively relates to the systemic buying

2.3 Customer Orientation

Kohli and Jaworski (1990) suggest that, "customer orientation represents the degree to which customer information is both collected and used by the business unit.

"The dissemination of information about customers throughout an organization, formulation of strategies and tactics to satisfy market needs inter-functionally and achievements of a sense of company-wide commitment to these plans" (Shapiro, 1988)

"The organizational culture that most effectively and efficiently creates the essential behaviors for the creation of greater value for buyers" (Narver and Slater, 1990)

Ruekert 1992) defined the customer orientation as " the degree to which the organization obtains and uses information from customers, develop a strategy which will meet customer needs, and implement that strategy by being responsive to customers' needs and wants".

"The set of beliefs that puts the customer's interest first, while not excluding those of all other stakeholders such as owners, managers, in order to develop a long term profitable enterprise" (Deshpande et al, 1993).

The market performance is enhanced when the customer orientation as a strategy has been improved by a business concern, . A firm closely working together and collaborating with the downstream partners naturally influences demand in a useful manner so that the end customer is satisfied. Increasing the customer satisfaction is an essential element of the purchasing supply management. Customer's needs are proactively identified and changes are adapted more quickly. (Juttner et al, 2007). Consequently, this may likely influence the risk management - performance of the firms. According to Stanely and Wisner (2001), many variables are related to the customer satisfaction - performance. These variables become helpful in meeting the customers and end users' requirements and expectations, have the power to find solutions to the delivery issues and also accelerate the deliveries, and are capable to quickly respond to the changed requirements of the customers and end users. It is therefore argued that customer orientation affects the performance of supply chain risk management.

Due to technological advancement, product life cycles have become shorter leaving a fierce competition among organizations for sustaining the superior performance. Consumers have become more informed and organized (Ruekert, 1992) as such the organizations have to improve their products and services as per the customer's expectation and market demand. Thus customers' needs and requests need deep understanding in order to meet it satisfactorily. This study is being conducted from the buyer's firm perspective and the customer may be internal or external end-user. Information e.g. clear specifications of the requirement, demand status, & delivery schedule help organizations in determining the capable and right sources (suppliers), and collaborating with

them for the provision of the relevant information about the desired products/services. Since most requirements are complex in nature, they require customization and integration prior delivering to the customers. Hence, procurements as package are preferred to meet the customer requirement. Procurements as package means integrating all the scattered requirements in a single whole or a system like procurement of products with related services (installation) etc. in a single package from one source or in integrated form prior delivery to the end user/ customer.

Both scenarios i.e. bringing together the customer and supplier on the same platform and making systemic buying (procuring the products along with related services) not only enhace the possibilities of getting the exact requirement but also decreases the risk factors. This may lead to the risk management performance. From the above discussions we hypothesis as following;

P3: Customer orientation positively relates with the supply risk management performance.

P4: Customer orientation positively relates with the systemic buying.

2.4 Systemic Buying

Systemic buying is the concept that emphasizes on procuring the products along with related services in a complete package rather than individual item. For example the procurement of equipment together with its installation and post purchase service package that supports the ease and comfort of the customer. In systemic buying, the customer is offered with complete products / services that have a value creation for customers. It has more value offerings as compared to the separated offerings. Systemic buying is an integrated solution of multiple tasks involved in the products and services. The Integrated

solutions are explained as bringing together various products and services in to a single whole whose functioning enhances the overall value (Epp& price , 2011). In systemic buying the products services offered include a range of elements those meet the customer needs and hence creating a value for them. It is because the bundling and integrating the requirements in a complex product and service offerings best meet the expectations of the customers and as such additionally creates a value for them. Many purchasing organizations have trend of readiness to purchase a system that is the subsituite of integrated system (Hallikas et al,, 2014). The purchased systems here consist of both goods and services. This concept has been emerged due to the reason that the value delivered through products and services involves additional attributes. The fundamental principle is that the value delivered to the end user or customer should carry more than a single attribute. The systemic buying approach focuses on the readiness to integrate all the procurement activities through information sharing and making collaboration with the customers. Systemic purchasing also plays an important role in cost reduction, improvement in usability and an easy implementation. This procurement strategies helps in handling the product based modification or customization (Cousins, 2005). Additional value and attribute is created for the customers through cutting down of the overall costs of the products offered, and through differentiation referring to the customer value through purchase and supply management. Service purchases bring more profit-increasing potential than that of the goods purchases and due to this very reason the service purchases in the systemic buying is truly considered very essential. (Fearon and Bales, 1995). Systemic buying is usually employed in complex nature of procurements where the system integration, alignments,

service modalities are required for operationalization of the systems procured. Systemic procurements encourage long term partnerships and relationships that minimize the failure risks associated with the procurements. In systemic buying either the risks are transferred or mitigated & controlled so that the supply risk management performance can be achieved. The goods and services purchased in systemic buying are put together in such away that it smoothly caters for all the dual or multiple functions. Its benefits are it is easy in implementation and use, it attract to those customers which are comparatively falling in low category, and therefore brings value to the customers. We therefore hypothesize that;

P5: Systemic buying positively relates with the supply risk management - performance.

P6: Customer orientation positively relates to the systemic buying.

P7: Systemic buying mediates the relationship between customer orientation and supply risk management - performance

2.5 Supply chain Risk Management Performance

To fully grasp the supply chain risk management performance, we define first, the supply risk. It is " An incident's probability associated with the inbound supply from an individual vendor failures or the supply market occurring in which its outcomes result in the failure of the buying firm to meet the end user/customer demand or becomes a source of threat to the customer's life." (Zsidisin, 2003). The uncertainty arises from a number of sources like the environment, supply and demand in the relationships with suppliers (Christopher and Peck, 2004). The Supply Chain Risk Management (SCRM) may be defined as ," the managing of risk related to the supply chain by the

supply chain parties through mutual coordination or collaboration for ensuring the profitability and stability", Tang (2006a). The SCRM, besides managerial aspect may be different when associated to the inbound and outbound activities. For example; to identify the suppliers selection associated risks, the primary focus is on smoothly maintaining raw material flow so that no disruption in supply occurs. Similarly, on the perspective of outbound side, the financial risk i.e. possible bankruptcy of the customer may also be a concern. The supply risks (risks in purchasing and supply) play very essential role in the risk management development of supply chain (Zsidisin, 2000). There are many risks which are associated with the supply chain. Normally, the companies use a number of the management actions which help in minimizing or transferring the severe impact within the supply chain. However, some strategies related to the common supply management capabilty, also have a significant impact on the supply risk - management performance. Certain companies apply the conventional actions in managing the purchasing and supply risks e.g maintaining over capacity for cushioning the existing activities, & holding alternate resources for the strategic items, keeping safety stocks, and keeping available stocks with them (Zsdisin, 2000). Some specific strategies are also used for managing the risk associated with the supply source. For example, Juttner (2003) suggests that certain products are to be dropped from the supplies, and certain geographical areas are to be avoided in order to reduce the supply related risks.

The study of Wieland and Wallenburg (2012) examines the effect of agility and robustness on supply chain performance. It says that both the agility and robustness are important in improving the performance. Robustness is a more

effective driver of the business performance in the supply chain. Supply risk management processes with supply risk management performance are assessed by Hoffmann et al, (2013) in supply chain management background. His results showed that, as the processes of risk management mitigation and management processes become mature, the supply risk management performance becomes positively significant.

2.6 Gap Analysis

Prior researches showed relationship between the supply risk and supply chain performance without empirical foundations (Chopra and Sodhi, 2004; Sheffi, 2005) but only limited studies have explored this relationship empirically including that of Hendricks and Singhal(2003, 2005). He has investigated the impact of supply chain disturbances on a firm's stock price, risks related to as well as Wagner and Bode (2006).

The exiting studies lack the mention of significantly adaptation of the performance of supply chain risk management, yet its importance is recognized in various studies related to the supply chain management (Ellegoard, 2008). Systemic buying is a process through which the integrated systems are procured as a whole package instead of procurement in piecemeal and therefore is viewed a stable process in term of reduced risks. Hence we argue that systemic buying may act as a mediator, through which the supply risk management - performance can be achieved. This study has the novelty in the sense that it investigates the impact of supplier orientation and customer orientation on the supply chain risk-management performance through the mediation of systemic buying as previous studies have not taken this aspect earlier.

2.7 Conceptual Reflections

Supply risk management performance is considered highly dependent on the supply chain practices of Supplier orientation and customer orientation. The supplier orientation focuses on the relationships between the buyers and suppliers, commitment of suppliers, performance of suppliers, and on the supplier development programs emphasizing and focusing on the supplier evaluations. In the description of literature review, Christopher Tang and Brian Tomlin (2008) mentioned that the supplier orientation can help in mitigating supply risks in term of reducing the cost of managing multiple suppliers and to foster better supply relationships. Similarly, (Deshpande, 1993: Levitt, 1960) cited that a business will develop its market performance provided if it focuses on the improvement of the customer orientation. As such, we hypothesis that the supplier orientation and customer orientation have relationships with the supply risk management performance. Moreover, systemic buying that enhances the customer value through integration i.e. packaging the product with related services can be an impacted by the supplier orientation and customer orientation ultimately leading to the supply risk management - performance.

Based on the literature review as discussed above and the possible linkages among the independent variables i.e. the supplier orientation and the customer orientation, the mediating variable i.e. systemic buying and the dependent variable i.e. the supply chain risk - management performance, we will be investigating the possible relations ships of the supplier orientation and the customer orientation with the supply risk management - performance directly and through systemic buying as a mediating variable with the supply risk management.

3 Research Framework

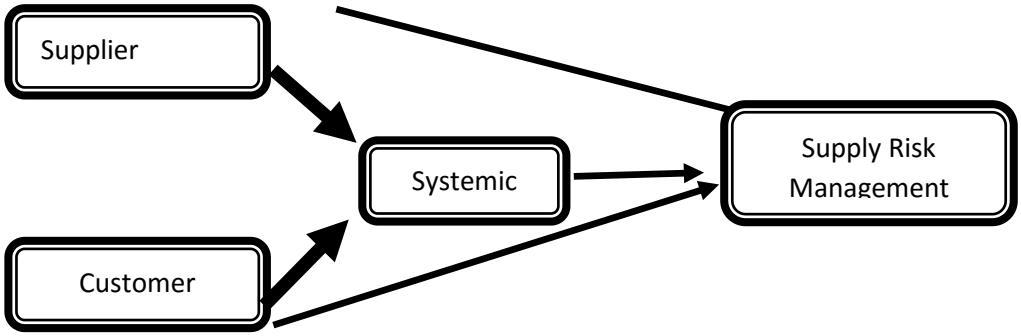

Figure 1 Conceptual Model

H1: Supplier orientation positively relates to the Supply Risk Management performance

H2: Supplier orientation positively relates to the systemic buying

H3: Systemic buying positively relates to the supply risk management performance.

H4:.Systemic buying mediates the relationship between supplier orientation and supply risk management performance.

H5: Customer orientation positively relates to the supply risk management performance

H6: Customer orientation positively relates to the systemic buying.

H7: Systemic buying mediates the relationship between customer orientation and supply risk management performance..

4. Research Methodology

This research has been conducted in B2B context for the reason that its variables i.e. supplier orientation, customer orientation, systemic buying and risk management performance are closely linked with the supply chain that is

practiced in the businesses. The data was collected from supply chain managers, marketing managers, and procurement managers of various industries. These industries include trading firms, manufacturing concerns, distribution industry, services providers firms etc. The firms were randomly selected from the lists obtained from the Islamabad and Haripur chamber of commerce. The procurement and supply departments of the organizations were focused for the reason that these departments have closed association with the customers and suppliers. Moreover, the systemic buying is a unique procurement strategy and the procurement personnel were more likely suitable for dealing with these disciplines. The data was collected from the twin cities and that of from the industrial zone of Haripur, Islamabad and Haripur based multi industry was our target population. The manufacturing industry included cement, steel, soap, food and beverages etc. The trading firms were mostly those who acted as the third parties between the suppliers and the customers. These firms mostly involved in the procurement and supply of the technical and scientific equipments .

4.1 Unit of Analysis

Respondents for this research study were the managers and supply chain supervisors. These people by virtue of their assignments were more informant and professional in their fields of supply chain that why were selected them. The unit of analysis were the firms who practiced supply chain activities, risk management, supply chain risk management and the performance of supply risk management.

4.2 Sample Selection

Krejcie and Morgan (1970) created the table by using following formula.

$$n = \frac{X^2 * N * P\ (1-P)}{(ME^2 * (N-1) + (X^2 * P * (1-P)}$$

Where

n= Sample Size

X^2= Chi-Square for the specified confidence level at 1 degree of freedom

N= Population Size

P= Population Proportion

ME= Desired Margin of error (expressed as a proportion)

Table 4.1

Sample Size Table

	Size of Population					
Margin of error	>5000	5000	2500	1000	500	200
+/- 10%	96	94	93	88	81	65
+/- 7.5%	171	165	165	146	127	92
+/- 5%	384	357	333	278	217	132
+/- 3%	1067	880	748	516	341	169

From both lists provided by Haripur and Islamabad chamber of commerce sample of 150 respondents from the population of 300 firms has been drawn. Therefore 200 questionnaires were floated for meeting 150 responses. However a total of 137 responses were received out of which 15 were incomplete or invalid leaving 122 final responses. SO analyses of this whole research is based on these questionnaires.

4.3 Data Collection

Data was collected in one shot i.e. (cross-sectional study), through primary data collection. For data collection we approached to the selected sample of different firms drawn from the list of Islamabad and Haripur chambers of commerce and industry. . Accordingly, through proper planning the target samples were contacted at their offices, and factories. The survey instrument i.e. questionnaires were floated to the industries and trading firms directly through email,faxes, and through ersonel visits to their offices. The items of questionnaires were explained to some of the respondents wherever they needed it and asked for. The data was collected during the month of March and April, 2016 for the study.

4.4 Type of Study

Deductive research with quantitative approach and positivism paradigm has been used to answer the research question.

4.5 Instrument development

Supplier Orientation: The research instrument was divided into two sections A & B. The section A constituted of twenty one items adapted from Hallikas and Lintukangas (2016) studies. The first 6 items relate to the first independent

variables i.e. supplier orientation. A sample question is " In our organization, supplier collaboration is measured regularly.

Customer Orientation: A second independent variable of the study include four items. These items are adopted by Hallikas and Lintukangas (2016) research studies. These four items are representing the customer orientation information section. The sample question like "supply management of our organization is able to respond quickly to the changed requirements of end customers.

Systemic Buying: Two items were used for collection of information from respondents. In this research work these items are measured through the items developed by Hallikas and Lintukangas (2016).

Risk management Performance: Risk management performance was assessed through 9 items developed by Hallikas and Lintukangas (2016). The sample question" our organization focuses on risks concerning the availability of products and services".

The second section dealt with demographics that included information about the salesperson like age, gender, education, total experience and their company status.

4.6 Data Collection Procedures

Cross sectional primary data has been used for recorded for this research study. Questioners distributed among selected sample on both locations i.e. Islamabad and Haripur. Questionnaire has been divided into two parts. The first part is about supplier orientation, customer orientations, systemic buying and supply risk management performance items. The second part of the

questionnaire consist of demographic information like gender, age, experience etc. All close ended questions consist of starting from 1 for strongly disagree to 5 strongly agree.

4.7 Data Analysis Techniques

The data obtained was compiled and checked for any missing values or outliers. None of them was found such. The data was perfectly normal. The data gathered was subjected to further statistical test on Statistical Package for Social Sciences (SPSS) software. The Alpha value indicated the validity of the instrument was satisfactory, which as directed by Sekaran (2003) should be more than .60 to be in safe range.

4.8 Descriptive of Study Variables

Various tests have been run to test the relationship among the described variables like correlation, realiability, regression and sobel test. Results and procedure of the tests are discussed below the table.

Table 4.2

Descriptive of Cronbach's Alpha

Construct/Dimensions	No of Items	Cronbach's Alpha	Standard Deviation
Supplier Orientation	6	.711	4.11
Customer Orientation	4	.685	1.91
Systemic Buying	2	.601	2.00

Supply Risk Mgt Performance	9	.739	5.22

For observing the internal consistency we figured out Cronbach's alpha value. Nunnally (1978) explained cut off value for alpha 0.70. In (2007) Hua and Mei conducted research on cut off value of alpha. They said the 0.6 value of alpha is also acceptable for reliability of the test. Nunnally (1978) suggested that if the research is in its introductory phase then the value of alpha between 0.5 and 0.6 is also acceptable.

Reliability of the supplier orientation was checked through SPSS software which gave alpha value 0.711 with standard deviation 4.11, which is statistically significant at much reliable situation where alpha value is more than 0.70. There were 6 items used in the questionnaire, related to the supplier orientation.

The information about the second construct (Variable) were collected through the questionnaire by incorporating in it the four items. We checked the reliability of the data received against these four items related to the customer orientation. The Cronbach's alpha value in this case is .685 with standard deviation of 1.91. This value although a little bit, is less than the standard value of .7 as set by Nunnally (1978) however it meets the set criteria of .6 as has been established by Hua and Mei (2007). Hence the reliability of the collected information stands accurate according to the standard introduced by the Hua And Mei (2007) .

We had only two items related to the third variable in the questionnaire i. e the systemic buying. The systemic buying is working as mediating variable in

our model. It is highlighted that we couldn't find any other item related to the systemic buying in the previous literature on researches that could have been adapted. Thus, no new item was added for the reason of possible incompatibility with the available items of the systemic buying. The Cronbach's alpha value is .601 with the standard deviation of 2.00. Hence this value qualifies its reliability under the Hua and Mei (2007) standard.

We collected the information about our fourth variable i.e. the supply Risk Management Performance which is acting as a dependent variable in our model. We used 9 items for the purpose in the questionnaire. The Cronbach's alpha value in this case is .739 at 5.22 Standard deviation. This value qualifies both standards of .70 and .60 values set by the Nunnally (1978) and Hua and Mei (2007), respectively. Thus the reliability of this variable also stands confirmed.

From the above findings it is clear that the Cronbach's alpha value in all the cases has emerged a significant value establishing the reliability of all the variables and thus making the data qualified for running the Regression and correlation tests.

Table 4.3

Descriptive Statistics of Study Variables (N=122)

	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	Kurtosis

	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
SO	122	2.00	5.00	3.8156	.68628	.471	-.399	.219	-.291	.435
CO	122	3.25	5.00	4.2418	.47990	.230	.005	.219	-.643	.435
SB	122	1.00	5.00	3.6885	1.00274	1.005	-.732	.219	-.180	.435
SMP	122	2.56	5.00	4.0747	.58069	.337	-.379	.219	-.661	.435
Valid N (listwise)	122									

Minimum value shows the minimum response for variable. The minimum value of supplier orientation is 2 where as maximum value is 5. The mean value is 3.81 which is nearest to middle value of 2 and 5. This means that the data is normally distributed with standard deviation of 0.68.

Similarly minimum value for customer orientation is 3.25 and maximum value is 5. The mean value is 4.24 which is near to middle value of minimum and maximum. So data is normally distributed.

The minimum value for systemic buying is 1 and maximum value is 5. The mean value is 3.68 with standard deviation value of 1.00 which is near to middle value of minimum and maximum. Hence, data is normally distributed.

Minimum response recorded for supply risk management performance 2.56 and maximum value is 5. The mean value is 4.07 with standard deviation of .58. This value is near to middle value as well so data set is to be called normally distributed.

Normal Q-Q plots of suppler orientation, customer orientation, systemic buying and the supply risk management performance has been created to see whether the data set is normally distributed or not. The data set is perfectly normally distributed for suppler orientation with skewness -0.399 which is falls between the standard values of -1 and +1. In the case of customer orientation, the Skewness value is .005 that also falls between the range of -1 and +1, hence confirming the data is normal. Thus the data set is normally distributed for systemic buying with the skewness -.732 which falls between the standard values of -1 and +1. The values of supply risk management performance is -.379 that also falls within the standard values of -1 and +1.

Similarly the kurtosis of -0.291 for supplier orientation, -0 .643 for customer orientation, -.180 for systemic buying and -0.661 for supply risk management performance are normally distributed because all these values fall within the bracket of standard i.e., +3 and -3.

Table 4.9

Constructs correlations (N=122)

	Constructs	1	2	3	4
1	SO	1			
2	CO	.24**	1		
3	SB	.78**	.18*	1	
4	SRMP	.36**	.50**	.32**	1

*** p < 0.01;*P<0.05*

Pearson's Correlations two- tailed significant test was applied to find the strength between variables (Sekaran, 2003). All the correlation results among the variables were found significant and positively related at 0.01 levels. However the correlation between the customer orientation and the systemic buying exist is also significant but at p<0.05.The correlations value (*r* = .24) between supplier orientation and customer orientation validates that variables are positively correlated at 0.01 level. The correlations value (*r* = .78) between supplier orientation and systemic buying validates that variables are positively correlated at 0.01 level. Correlation value (*r* =.36) express that supplier orientation is positively correlated to supply risk management performance at 0.01 level. Correlation value (*r* =.18) express that customer orientation is positively correlated to systemic buying at 0.05 level. The correlation value (*r* =.50) between customer orientation and supply risk management performance illustrates positive correlation at 0.01 level. Also *r*=.32 with significance of 0.01 level express the positive correlation between systemic buying and supply risk management performance. Hence, it verifies the research that higher the supplier orientation, the more will be customer orientation and systemic buying.

Results also verify that all relationships are positively interconnected and they have effect on each other.

4.10 Hypotheses Testing

4.10.1 Direct Effects

Direct regression is applied to study the relationship among supplier orientation, customer orientation and systemic buying on supply risk management performance.

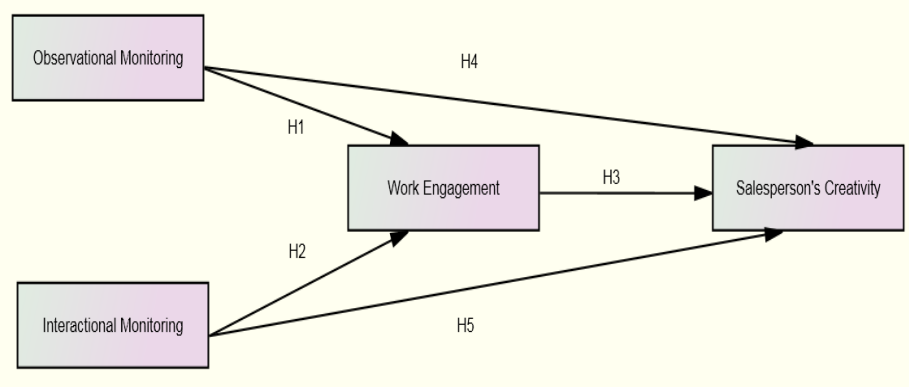

Figure 11

Table 4.10

Regression Analysis of supplier orientation w.r.t supply risk management performance (N=122)

Variables	B	S.E	β	t	R^2	F
Constant	2.88	.27		10.36**	.13	18.86**
SO	.31	.07	.36	4.34**		

**$p < .01$ Dependent Variable SRMP

Table 4.13 shows the results of regression analysis and addressing the relationship between the supplier orientation and the supply risk management performance . The value of R^2= .13 shows that 13 % variation has been brought in the supply risk management performance due to the supplier orientation. The β value of .36 signifies that supplier orientation has caused a positive and significant change in the supply risk management performance . Hence, our hypothesis that, the supplier orientation has a significant positive impact on supply risk management performance stands accepted. Hence therefore H1 is accepted at F=18.86 with significance of 0.01.

Table 4.11

Regression Analysis of supplier orientation w.r.t systemic buying (N=122)

Variables	B	S.E	β	t	R^2	F
Constant	-.68	.32		-2.13*	.61	192.06**
SO	1.14	.08	.78	13.85**		

**$p < .01$ Dependent Variable Systemic Buying

Table 4.13 shows the results of regression analysis addressing the relationship between the supplier orientation and the Systemic Buying. The

value of R^2= .61 shows that 61 % variation has been brought in the Systemic Buying due to the supplier orientation. The β value of .78 signifies that supplier orientation has caused a positive and significant change in the Systemic Buying. Hence, our hypothesis that, the supplier orientation has a significant positive impact on Systemic Buying stands accepted. Hence therefore H2 is accepted at F=192.06 with significance of 0.01.

Table 4.12

Regression Analysis of systemic buying w.r.t supply risk management performance (N=122)

Variables	**B**	**S.E**	**β**	**t**	**R^2**	**F**
Constant	3.38	.19		17.70**	.10	13.93**
SB	.18	.05	.32	3.73**		

**p < .01 Dependent Variable SRMP

Table 4.13 shows the results of regression analysis and addressing the relationship between the systemic buying and the supply risk management performance. The value of R^2= .10 shows that 10 % variation has been brought in the supply risk management performance due to the systemic buying. The β value of .32 signifies that systemic buying has caused a positive and significant change in the supply risk management performance. Hence, our hypothesis that, the systemic buying has a significant positive impact on supply risk management performance stands accepted. Hence therefore H3 is accepted at F=13.93 with significance of 0.01.

Table 4.13

Regression Analysis of customer orientation w.r.t supply risk management performance (N=122)

Variables	B	S.E	β	t	R^2	F
Constant	1.48	.40		3.64**	.25	41.02**
CO	.61	.09	.50	6.40**		

**$p < .01$ Dependent Variable SRMP

Table 4.13 shows the results of regression analysis and addressing the relationship between the customer orientation and the supply risk management performance. The value of R^2= .25 shows that 25 % variation has been brought in the supply risk management performance due to the customer orientation. The β value of .50 signifies that customer orientation has caused a positive and significant change in the supply risk management performance. Hence, our hypothesis that, the customer orientation has a significant positive impact on supply risk management performance stands accepted. Hence therefore H5 is accepted at F=41.02 with significance of 0.01.

Table 4.14

Regression Analysis of customer orientation w.r.t systemic buying (N=122)

Variables	B	S.E	β	T	R^2	F
Constant	2.08	.80		2.59*	.03	4.08*
CO	.37	.18	.18	2.02*		

**$p < .01$ Dependent Variable SB

Table 4.13 shows the results of regression analysis and addressing the relationship between the customer orientation and the systemic buying. The value of $R^2 = .03$ shows that 3 % variation has been brought in the systemic buying due to the customer orientation. The β value of .18 signifies that customer orientation has caused a positive and significant change in the systemic buying. Hence, our hypothesis that, the customer orientation has a significant positive impact on systemic buying stands accepted. Hence therefore H6 is accepted at F=4.08 with significance of 0.05.

4.10.2 Mediation Analysis

Our Hypothesis H4 states that the systemic buying has to mediate the effects of supplier orientation on the supply risk management performance. Similarly our hypothesis H7 states that the systemic buying has mediate the effects of customer orientation on the supply risk management performance.

According to Baron and Kenny (1986), in order to validate the mediation there should be meeting of the three conditions. For instance, variations in supplier orientation (independent variable) significantly account for variations in supply risk management performance (dependent variable). This step is done for establishing that there would be an effect that may can be mediated. Secondly, variations in the supplier orientation (independent variable) significantly account for variations in systemic buying (mediator variable) and thirdly, when supplier orientation (independent variable) and the systemic buying (mediator variable) are controlled together, the direct relationship between the supplier orientation (independent variable) and supply risk

management performance (dependent variable) should become insignificant for full mediation or β value for supplier orientation (independent variable) should decrease to establish partial mediation.

The Table 4.14 highlights the mediation analysis results. In the first phase, a regression analysis was run to foresee the supply risk management performance from supplier orientation. This step provided information that facilitated in evaluating the nature of strength of relationship between supplier orientation and supply risk management performance.

Table 4.15

Mediation Analysis of systemic buying between supplier orintation andsupply risk mgt performance (N=122)

Model	**IV**	**DV**	**B**	**SE**	**β**	**t**	**R^2**	**F**	**Δ R^2**
Model-I	SO	SRMP	.31	.07	.36	4.34**	.13	18.86**	.12
Model-II	SO	SB	1.14	.08	.78	13.85**	.61	192.06**	
	SO		.31	.28	.36	4.34**			
Model-III	SB	SRMP	.05	.07	.08	.63	.13	9.58	

* $p < 0.05$, ** $p < 0.01$,

The Table 4.15 shows the results for mediation analysis. Initially, a regression was run to predict supply risk management performance from supplier orientation. This step provided information that facilitated in evaluating the strength of relationship between supplier orientation and supply risk management performance

The results of Model-I have confirmed that the on the whole, effect of the supplier orientation on the supply risk management performance is statistically significant ($F = 18.86$, $p < 0.01$, $\beta = 0.36$, $R^2 = 0.13$.) Thus, the second regression was carried out to forecast systemic buying from the supplier orientation. The results give values ($F = 192.06$, $p < 0.05$, $\beta = 0.78$, $R^2 = 0.61$. The third regression was performed in Model-III to predict the performance from both supplier orientation and systemic buying. The results provided values ($F = 9.58$, $p < 0.01$, $\beta = 0.08$, $R^2 = 0.13$).

The Table 4.15 shows the values of $\beta = 0.36$ in Model-I, and that of the $\beta = 0.08$ in Model-III where it can be observed that the value of β has been decreased from Model-I to Model-III. Based on change in β values and ΔR^2, it is established that the systemic buying partially mediates the effects of supplier orientation and supply risk management performance.

From the above interpretation of results it is clear that the hypothesis H:4 with partial mediation is supported which states that the systemic buying mediates the relationship between the supplier orientation and the supply risk management performance.

The Table 4.14 highlights the mediation analysis results. In the first phase, a regression analysis was run to foresee the supply risk management

performance from customer orientation. This step provided information that facilitated in evaluating the nature of strength of relationship between customer orientation and supply risk management performance.

Table 4.16

Mediation Analysis of systemic buying between customer orientation and supply risk mgt performance (N=122)

Model	**IV**	**DV**	**B**	**SE**	**β**	**t**	**R^2**	**F**	**ΔR^2**
Model-I	CO	SRMP	.61	.09	.50	6.40**	.25	41.02**	.25
Model-II	CO	SB	.37	.18	.18	2.02*	.03	4.08*	
Model-III	CO SB	SRMP	.61 .13	.09 .04	.50 .23	6.40** 3.08**	.31	26.72**	

* $p < 0.05$, ** $p < 0.01$,

The results of Model-I have confirmed that the on the whole, effect of the customer orientation on the supply risk management performance is statistically significant ($F = 41.02$, $p < 0.01$, $\beta = 0.50$, $R^2 = 0.25$.) Thus, the second regression was carried out to forecast systemic buying from the customer orientation. The results give values ($F = 4.08$, $p < 0.05$, $\beta = 0.18$, $R^2 = 0.03$). The

fourth regression was performed in Model-III to predict the performance from both customer orientation and systemic buying. The results provided values ($F = 26.72$, $p < 0.01$, $\beta = 0.23$, $R^2 = 0.31$).

The Table 4.15 shows the values of $R^2 = 0.25$ in Model-I, and that of the $R^2 = 0.31$ in Model-III where it can be observed that the value of R^2 has been increased from Model-I to Model-III. Based on change in β values and ΔR^2, it is established that the systemic buying partially mediates the effects of customer orientation and supply risk management performance.

The interpretation of above mentioned results support our hypothesis H:7 that states that the systemic buying mediates the relationship of customer orientation and the the supply risk management performance.

5. Discussions

This research focused on the measurement of the SCRM performance while using the systemic buying as a mediator in relationships with the supplier orientation and the customer. The systemic buying is a unique procurement strategy that integrates the solutions of customers requirements in package and makes it convenient for meeting the customer requirements as per satisfaction, thus enhancing the management performance related to the supply risk. The earlier studies regarding supply risk management had identified the associated risks, its categorization, and the tools for mitigating the supply risks. Here we cite the studies of Hoffmann et al. (2003) who investigated the effects of various risk related strategies like monitoring, mitigation etc on the performance of supply risk management. Still there was limited empirical work on the risk management performance's drivers in the supply chain domain particularly that of the procurement field. Moreover, there was felt a need to specifically

introduce more risk management strategies and tools through which the supply chain risk management performance can be effected. This study was based on a survey approach and took in to account the supply chain domains of various firms and businesses who practiced the systemic buying in meeting of their customers' demands. This study has shown the linkages among variables through statistical regression. Dependency of the supply risk management performance on the supplier orientation and that of the customer orientation has been established independently as well through the systemic buying being a mediator. The correlation of supply risk management performance with that of the supplier orientation and customer orientation confirms a positive relationships that validates the risk management performance enhancement.

Based on the theoretical foundation, certain number of hypothesis showing relationships among the variables were established. To proceed with our findings, various tests like Pearson's correlation, regression, data normality , descriptive , and reliability tests were run. The first hypothesis H1 of the study showed a relationship of the supplier orientation with the supply risk management - performance. The correlation test showed that there existed a positive and significant relationship between the supplier orientation and the supply risk management performance. This relationships was also confirmed by the regression analysis. Results of both the tests supported H1. Hence there is a relationship between the two variables.

H2 predicting positive relationship between the supplier orientation and the systemic buying. The results of this study supports the relationship as highlighted in the literature. which was confirmed through the correlation and regression analysis.

A positive correlation was found for systemic buying and supply risk management. According to Hoffmann (2013) the supply risk management impacts the business performance. He further elaborates it that the supply risk mitigation and the processes of supply risk management's maturity influences the supply risk management - performance positively. This shows that the systemic buying has a positive relationship with the supply risk management performance. The findings of this study supports the prior researchers' findings about the relationship between the systemic buying and the supply risk.

The hypothesis H4 showing mediation of the systemic buying between the supplier orientation and the supply risk management- performance has been established in the findings of this research meets the four steps criteria set by Baron and Kenny (1986) for the mediation. There exists relations ships between independent and dependent variables, independent and mediator, mediator and dependent, and the relations ship of independent plus mediator with the dependent variable. Moreover, the mediation existing here is a partial mediation because the value of β declined in the fourth step.

The hypothesis H5 of this study showed a relationship of the customer orientation with the supply risk management - performance. The correlation test showed that there existed a positive and significant relationship between the customer orientation and the supply risk management performance. This relationships was also confirmed by the regression analysis. Results of both the tests supported H5. Hence there is a relationship between the two variables.

The mediator variable systemic buying was checked with customer orientation through correlation test. the correlation results show both variables are positively correlated. The existing relationship also stands confirmed

through the regression results of hypothesis H6. Hence, customer orientation positively impacts the systemic buying.

The hypothesis H7 predicted the mediation of the systemic buying between the customer orientation and the supply risk management- performance. To find whether this relationship did exist or not, the four steps for mediation as highlighted by Baron and Kenny (1986) were tested and found in conformity. The fourth step of the test involving finding the relationship of the customer orientation, and the systemic buying as the controlled variables with the supply risk management- performance resulted in declining (becoming insignificant) the relationship between the customer orientation and the supply risk management- performance due to using the systemic buying as mediator.

6. Conclusion

The findings of this research proved relationships among all the variables. However, some relationships were found strongly significant where as some were observed less significant. The customer orientation variable significantly impacts the supply risk management- performance through systemic buying and a perfect mediation does exist. This is because that in customer orientation the supply matches the demands and the supply chain keeps on changing rapidly with the changing conditions, hence avoids the associated risks. Thus it leads to the supply risk management-performance. The customers desire for the full solution which is provided to them through the integration or package procurement. The companies practicing systemic buying as a strategy get their customers delighted in the sense that they not only get satisfied but they also perceive a value creation in the integrated solutions. Consequently the risk

associated with the supply chain i.e. either mitigated or controlled that leads to the enhancement of the supply risk management - performance.

The mediation of the systemic buying, however between the supplier orientation and the supply risk management - performance does exist but is a partial. This is because that focusing on the reduced suppliers in the supplier orientation may put the supply in jeopardize if the suppliers due to any reason, refuse to supply the to the purchaser creating a stock out position and risk.

Based on the above it is concluded that the systemic buying is a desired procurement strategy that reduces the associated risk to the supply chain and hence enhances the risk management performance.

7. Managerial Implications

The buying firms are under great responsibility while working between the suppliers and the customers. On the one hand, they focus on the customer requirement meeting for their satisfaction where as on the other hand they desire an un interrupted supply from the suppliers. Their ultimate goal is to mitigate the supply chain risks and improve its performance. The management of such firms in common and their supply chain supervisors in particular, therefore need to be more cautious during their business operations. They are to focus on strategies like showing loyalty towards the suppliers if they are limited. In case the suppliers are more and easily accessible, they then need to be more customer oriented.

8. Limitation and Future Recommendations

This research study carries along certain limitations besides a number of benefits. Since this was a business to business research, the data was collected from two regions i.e. the Islamabad and Haripur. Therefore, the results cannot

be generalized to the other regions. Moreover, the data is cross sectional which was collected in the March and April months. Similarly the findings are based on a limited number of respondents i.e. 122 which is normally considered small.

The future research should cover the whole regions across the country. Similarly, more items on the questionnaire about the systemic buying needs to be developed for reliability of the information. The model can be further expanded by including other variables like technology impact, CRM capability, and supply chain integration etc.

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