

**Competitive Advantage as a Mediator and Moderator
between Supply Chain Management Practices and
Organizational Performance: Evidence from Pakistan**



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CERTIFICATE

This is to certify that this thesis entitled: **“Competitive Advantage as a Mediator and Moderator between Supply Chain Management Practices and Organizational Performance: Evidence from Pakistan”** submitted by Ms. Nimra Zeb is accepted in its present form by the Department of Business Studies, Pakistan Institute of Development Economics (PIDE), Islamabad as satisfying the requirements for partial fulfillment of the degree of **Master of Philosophy in Business Economics**.

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Dedication

Dedicated from core of my heart to my beloved parents and my respected teacher Prof. Dr. Nadeem Ahmed khan.

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Abstract

This study evaluated the effectiveness of supply chain management (SCM) practices with respect to competitive advantage and firm performance. It also investigated the mediating and moderating role of competitive advantage between SCM practices and organizational performance. It used the SPSS to examine the association between the variables under study. In the study data is collected from the supply chain managers of the firms. The results indicated that effective practices of SCM could increase the competitive advantage and organizational performance. This study also revealed that the competitive advantage of the firm mediates as well as moderates the SCM practices and organizational performance relationship.

Keywords: Supply Chain Management Practices, Competitive Advantage, Organizational Performance

Chapter 1

Introduction

The need for effective SCM practices is increasing with time due to market globalization, and intensified competition situation exists in the market. These challenges force the organizations that they escalate their processes in a way that products are available at the right place within the right time and bearing very low cost that leads the organization towards the high profitability. This motive cannot be achieved without effective SCM practices. Thus, the practicing and understanding of SCM now become a vital prerequisite that helps the organization in staying alive in the global competition and enhance organizational performance by generating high profitability (Alvarado, 2001). The effective practices of SCM not only enhance the performance of the individual entity but also enhance the performance of all organization associated with the supply chain. Thus, the SCM refers to the coordination that has strategic nature between the trading partners that achieve the dual goal of SCM: to enhance the individual performance of the entity and to enhance the performance of all the associated companies with supply chain. The SCM now becomes an effective competitive tool that eliminate information flows from supply chain and make them able to compete the rivals. Therefore, the attention of business managers, consultants and academicians have increased towards the concept of SCM. In addition, almost all of the organizations have now realized that SCM is an effective tool in building a sustainable competitive advantage for the products in the global market. The growing importance of SCM with respect to increasing competition and globalization creates an opportunity that this area should be investigated further. Although, several previous studies have been undertaken on

the concept of SCM in different perspectives including; management information system, logistics and transportation, organization theory and operations management. Moreover, several theories were also used to explore the SCM concept in different perspectives, namely; competitive strategies, resource-based theory, industrial organization and cost analysis theory (Alvarado, 2001). However, the growing reputation of supply chain in the performance of the entities are still gaining the attention of the new researchers on the concept of SCM practices. Moreover, the concept of SCM is based upon two separate paths, namely; transportation and logistics management and supply management. As for as supply management is a concern, it involves the purchasing of goods and supplies them in a very low handling cost by applying the Just in time (JIT) technique. While transportation and logistics management means the supply of the goods at the right place with in the right time that increase the effectiveness of the overall supply chain, these two factors are necessary for the improvement of individual firm performance and performance of the whole supply chain. Based on all the above evidence, this study is also evaluating the firm performance with the help of SCM practices that provide a competitive advantage to the organization.

Various approaches have been identified in the past to achieve competitive advantage as well as long-lasting improvement and enhancement in the performance of organization and effective supply chain management (SCM) is one of them. The optimum execution of effective supply chain management can increase organizational productivity and such practices can enhance competitive advantage and finally associated with an increase in organizational performance (Suhong Lia, Bhanu Ragu-Nathanb, T.S. Ragu-Nathanb, S. Subba Raob 2002). Supply chain management can be found by considering the downstream link

between manufacturers and retailers which has been analyzed by (Clark and Lee 2001) and (Alvarado and Kotzab 2001). However, in recent studies both upper and downstream of supply chain management has been evaluated such as (Tan et al., 2002) which explored the association between supplier management practices, customer relationship practices, and organizational performance. Customer and supplier integration can impact organizational performance as studied in whereas (Tan et al., 1995) analyzed supply chain management, evaluation of supplier practices and performance of organization.

Conceptually. (Cigolini et al., 2004) developed important technologies and tools related to supply and can be used for the purpose of evaluating strategies made for supply chain management. As competition and globalization in markets intensified during 1990's, so the challenges linked with customer relationship such as the provision of quality product at lowest cost. Organizations are beginning to realize that just internal efficiency is not adequate but the whole supply chain management must be effective and efficient to increase organizational performance. Supply chain management must be understood, and its practices are prerequisite for maintaining competitiveness and significantly improving competitiveness in global competition.

The concept of SCM has been popular among and often been used by academicians, consultants and business managers. Considering the importance of SCM, in this study researcher has investigated empirically the association between supply chain management practices, competitive advantage and organizational performance. SCM practices involved activities aimed at conducting and promoting effective management particularly at supply chain. For instance, as per Sufian (2010) if the objective is to obtain competitive advantage and better organizational performance then both organizational and supply chain strategies

should be coherent and supportive to each other. Organizational performance and supply chain management practices have been investigated in this study as well as mediating and regulating the role of competitive advantage.

SCM is one of the main means for firms to control costs and improve economic performance when facing more and more competitive markets. Supply chain management (SCM) practices referred to practices as such that improve organizational performance throughout the supply chain, including three specific qualities such as design of the product, operational management, and customer relationships. The company's strategy depends on various factors, such as the company's behavior, its performance compared to its competitor, the scope of business operations, and the determinants of the company's success factors. SCM) practices have become a modern part of company strategy. The company's success depends on its SCM practice and its related strategies.

Research on SCM focuses on maximization of firm's entire worth through optimal allocation of resources throughout the company. SCM is sequence of activities which are value added in nature and connect customer with suppliers. Various elements of SCM are suppliers, manufacturers, transporters, warehouses retailers and customers. However, customers are being served and functions of supply chain is accepting and fulfilling of customer needs aspirations and nee. This study examines the regulation and role of SCM practices on organizational performance by focusing on competitive advantage.

1.1 Problem Statement

SCM includes suppliers, manufacturers, transporters, wholesalers, warehouses, retailers and even customers. On the part of organization, effective SCM is crucial for establishing and maintaining the competitive advantage of goods and services. For instance,

Sufiyan (2010) identified that management and integration of key elements of information can impact the performance of supply chain management. In Pakistan, the supply chain management sector has been replaced by the procurement sector in the many organization, especially the private sector and competitive advantage is not linked with supply chain management.

1.2 Research Gap

Studies devoted to SCM have their unique instance regarding the evolutionary and complex nature of SCM. As per (Shah, Goldstein & Ward, 2002) numerous studies both at theoretical and empirical level investigated the upper and downstream characteristics of supply chain management. Some of them related to suppliers such as selection of supplier, engagement of supplier and performance at manufacturing level (Choi and Hartley, 1996; Vonderembse and Tracey, 1999). Some have related supplier alliance and the performance of organization such as (Stuart, 1997) and some have commented on strategic supplier alliance and their determinants (Monczka and Morgan, 1997; Narasimhan, Jayaram, 1998). In some studies, customers and supplier linkage has been evaluated such as (Shin H, Collier DA and Wilson, 2000). As per the researcher, customer's response can improve its association with supplier and the antecedents and concerns of customer-supplier relationships (Chen and Paulraj, 2004). Clark and Lee (2000) and Alvarado and Kotzab (2001) investigated downstream linkage between manufacturers and retailers, however in recent studies both upper and downstream of supply chain management has been evaluated such as (Tan et al., 2002) which explored the association between supplier management practices, customer relationship practices, and organizational performance. Supplier management practices, customer relationship practices and organizational performance are interrelated as per Tan et

al. (1998). According to Frohlich and Westbrook (2001) argue that integration of supplier-customer can enhance organizational performance. To measure supply chain direction Min and Mentzer (2004) has developed a unique tool but at a conceptual level. Similarly, in order to examine supply chain management strategies (Cigolini et al., 2004) has developed some set of tools which are helpful in evaluating supply chain management strategies. Various providers of IT such as (such as SAP, Peoplesoft, i2, and JD Edwards) and companies conduct research such as (Forrester Research and AMR Research) have conducted extensive case studies on SCM implementation. The history of many cases of successful SCM implementation is documented. Taken together, these studies represent efforts to address different but stimulating features of SCM practice. However, lacking proper and integrated framework that could integrate both up and downstream activities of the supply chain and to link these activities by determining the mediation and regulatory role of the competitive advantage is somehow missing in the literature.

1.3 Research Questions

Based on above discussion, researcher has put forth the following research questions:

1. What is the nature of relationship between practices of supply chain management and performance of organization?
2. What is the role of competitive advantage in easing the relationship between organizational performance and practices of supply chain management?
3. What factors other than competitive advantage is helpful in regulating the relationship between performance of organization and supply chain management practices?

4. What is the nature of relationship between practices of supply chain management and competitive advantage?
5. What is the nature of relationship between performance of organization and competitive advantage?

1.4 Objectives of the Study

This study has the following research objectives:

1. To explore the nature of relationship between practices of supply chain management and organizational performance.
2. To understand the role of competitive advantage a moderator between practices of supply chain management and organizational performance.
3. To understand the regulatory mechanism provided by competitive advantage between practices of supply chain management and performance of organization.

1.5 Significance of the Study

The concept of SCM has been popular among and often been used by academicians, consultants and business managers. Considering the importance of SCM, in this study researcher has investigated empirically the association between supply chain management practices, competitive advantage and organizational performance. SCM practices involved activities aimed at conducting and promoting effective management particularly at supply chain. It has been cleared that the proposed concept of supply management practice has multi-faceted nature and consist of upper and downstream supply chain. The construction of operational measures has been tested in terms of observation and experiences.

By investigating both upper and downstream supply chain management, this study is helpful for researcher to grasp the subject matter and scope of supply chain management activities. This study is helpful in the sense that it enables researcher to identify the causes and repercussions of supply chain management practices. Further, the current study offers tool which is both effective and efficient in measuring SCM practices. It is crucial to find out whether there is a positive or negative relationship between organizational performance and supply chain management practices and to help discover how competitive advantage will act as a mediator and moderator for research.

Chapter 2

Literature Review

This chapter will provide definition of key selected variables for the model. The variables of this study are supply chain management practices, competitive advantage and organization performance. After that, researcher will derive hypothetical connections between variables from the literature such as which is independent, dependent, moderator or intermediary variables which will be finally followed by theoretical framework of the study.

2.1 SCM Practices

SCM practices are the activities that are undertaken by the firms to increase the effectiveness of their supply chain. Moreover, (Donlon, 1996) mentioned that the SCM practices include supplier partnership, continues the flow of the process, cycle time compression, and sharing technology information. Furthermore, Alvarado, U. Y., & Kotzab, H. (2001) described in their study that the SCM practices include the core competencies, effective internal-organizational system, and understanding the supply chain practices. In addition, SCM practices also include the supply chain integration, JIT capabilities, information sharing and characteristics of the supply chain. Chen, I. J., & Paulraj, A. (2004). Additionally, agreed goals, risk and reward sharing, sharing information, cooperation and long term relation with partners are the major practices of the supply chain Mentzer, J. T., Min, S., & Zacharia, Z. G. (2000)..

To survive in competitive market the understanding of SCM practices are extremely crucial. For those companies competing in a competitive environment must address the issues of supply chain management practices as it can affect the performance of organization. SCM strategies must be integrated and coordination among many factors is important in generating

better performance on the part of supply chain members (Green Jr. et al., 2008; Cohen and Roussel, 2005; Wisner, 2003). In the same way, Mason-Jones et al. (2000) and Lewicka (2011) proclaim that strategies of supply management must be market and product specific otherwise competitive advantage cannot be achieved. Many companies in the past have benefited themselves by adopting practices of SCM. For instance, as per (Wouters et al., 2009) an improvement in purchasing decisions can greatly contribute to supply chain management and organizational performance.

SCM practices refer to a sequence of activities aimed at promoting the effectiveness and efficiency of supply chain management. The basic purpose of these activities is thus to promote organizational performance by improving supply chain management. (Donlon 1996) comments on the recent developments taken place in the field of supply chain management. As per the researcher, partnership among supplier, outsourcing, sharing of information and technology are popular development in this field of study. Using procurement, quality, customer relationship as representative of SCM practices (Tan et al. 1998) in their empirical research has investigated supply chain management practices. In similar account (Alvarado and Kotzab, 2001) focus on the competent factors included in SCM practice checklist, use EDI as inter-organizational system, and the delaying customization of the supply chain can eliminate the excess inventory levels. Some six aspects of SCM practices has been identified using factor analysis by (Tan et al., 2002) which are; integration of supply chain, sharing information, characteristics of supply chain, management of customer services, location of geography and capabilities of JIT. To measure customer-supplier relationship (Chen and Paulraj, 2004) has used reduced supplier base communication, cross sectional factors and

engagement level of supplier. For (Min and Mentzer, 2004) the concept of SCM includes some agreed vision and goals, sharing information, reward-risk sharing, coordination, integration process, long-term and agreed leadership of supply chain are extremely important in understanding supply chain management. It is clear as day from the literature that what constitutes good supply chain management practices ultimately determine the performance of organization. If the goals and vision of the organization is to be achieving, it can only be done by proper utilization of supply chain management. The basic review of the literature led the researcher to formulate this study by consolidating five major dimensions as representative of supply chain management. In other words, this study utilizes concepts such as partnerships among strategic supplier, relationships with customers, level and quality of information sharing and postponement. In particular, the five unique dimensions include the upper stream, which is partnership among key strategic supplier, the downstream of the supply chain management which is the customer relationship, the flow of sharing information and the internal supply chain mechanism.

2.2 Strategic Supplier Partnership

It refers to the long-lasting association between suppliers and organization. This partnership demands long-lasting association as well as encouragement in mutual planning through solving complex problems arose during supply chain management practices (Gunasekaran A, Patel C & Tirtiroglu, 2001). This partnership is crucial in building common good among the various partners and to continue participation in more than one important strategic domain such as markets, products and technology (Yoshino M & Rangan, 1995). This partnership is helpful in promoting responsibility among various partners as others role is

connected with the rest. Again, this partnership at the level of strategic supplier is important for the success of quality products. Those suppliers engaged in early design of the product have more options to reduce the cost of choosing design and can choose the best technology for the organization in order to evaluate design of the product (Tan KC, Lyman SB, Wisner JD. 2002). Strategic supplier partnership according to (Balsmeier PW & Voisin W, 1996) is the reducing wasted time and energy and as per (Noble, 1997) this partnership is one of the key factors of leading supply chain.

2.3 Customer Relationship

Customer relationship refer to the practices aimed at managing complaints of customer, establishing long-lasting relationship with customers and improving satisfactions of customer (Li et al., 2006). As per (Vickery et al., 2003) in order to engage customer efficiently, customer relationship is key and enables supply chain management activities to promote organization performance. As per (Li et al, 2005) sharing information with customer is also crucial component of customer relationship. Customer relationship can be improved by proper broadcasting of information and quickly responding to the needs of customer (Li and Lin, 2006). Customer loyalty due to its internal competitive barriers is one of the keys for better customer relationship (Day, 2000). As per the researcher, development of mass customization and customized services to customers has revolutionized and demands good relationship with customer. For both survival and growth of the business, customer relationship is important and can affect organizational performance negatively if not being properly handled (Wines, 1996). Further, in order to better execution of SCM practices, SCM planning demands better association with customers at every level (Moberg CR, Cutler BD,

Gross & Speh, 2002). Product differentiation cannot be occurred if there is no proper relationship between customers and organization because it is the feedback of customers that enables the organization to make distinction in product relative to its competitor (Magretta, 1998).

2.4 Level of Information Sharing

Information sharing involves two aspects which are quality and quantity. However, the two aspects are highly important as far as supply chain management activities are concerned and have been treated separately in many studies (Moberg, Cutler, Gross & Speh, 2002) and Monczka, Petersen, Handfield, Ragatz, 1998). Quantitative information sharing can be defined as the degree of proprietary information which is important for communication among different partners in supply chain (Monczka, Petersen, Handfield, Ragatz, 1998). Information may vary one strategy to another; it may range from information regarding logistic supply, customer and general market (Mentzer, Min, Zacharia, 2000). Advance but undistorted information about marketing is extremely helpful in the supply chain management. This broadcasting of information can increase organization competitive advantage because the available data has been shared properly (Jones, 1998). For better supply chain management, sharing information at every level in the organization can promote efficiency (Novack, Langley & Rinehart, 1995). As per Stein and Sweat (1998), supply chain management members should develop a proper team who can exchange information where needed. In order to effectively respond to the customers, the sharing of relevant and timely information can promote competitive advantage in organization (Tompkins and Ang, 1993).

2.5 Quality of Information Sharing

As far as quality of information is concerned, it includes accuracy, timing, adequacy and credibility of exchanged information (Moberg, Cutler, Gross, Speh, 2002; Monczka, Petersen, Handfield, Ragatz, 1998). Not only information is important for SCM practices but the nature of information that is being exchanged is also important (Chizzo, 1998; Holmberg, 2000). Again, the nature of information if not suited with the organizational goals can create sever problems such as the impact of dysfunctional or inaccurate information of organizational goal (Lee, Padmanabhan & Whang, 1997) and Metters, 1997). The nature of information is if asymmetry among different partners for whatever reason, it can severely effect supply chain management practices (Feldmann, Müller, 2003). Misguided information during the SCM practices can create conflicts among various members of the supply chain and can pose threat to the organizational goals (Mason-Jones, Towill, 1997). Quality information sharing is prerequisite for better SCM practices (Feldmann, Müller, 2003). Organization must assure sharing of accurate information among various supply chain and must considered quality information as asset.

2.6 Postponement

Postponement refers to rescheduling or it is the practice of shifting one or more activities to some other specified period of time. For instance, during SCM practices such as manufacturing, purchasing and delivery, activities can be shifted to some other specified time for various reasons (Van Hoek 1998, Beamon, 1998, Johnson, Davis, 1998, Naylor, Naim, Berry, 1999 and Van Hoek, Voss & Commandeur, 1999). The two fundamental viewpoints for choosing postponements are: (1) to determine how may step it takes (2) to determine what steps to be postponed (Beamon BM. 1998). Postponement offers organizations the flexibility

of choosing variant versions of customer needs (Waller, Dabholkar, Gentry, 2000). Making decisions regarding inventory lies in the domain of postponement and allows organizations to reduce cost associated with supply chain (Lee & Billington, 1995) and (Van Hoek, Voss, Commandeur, 1999). In order to match the type of product, customer needs, nature of constraints in the logistic system as well as manufacturing. (Fisher, 1997, Fuller, O' Conor, Rawlinson, 1993; Cooper, 1998). When product with high currency density, high specialization, and greater innovation (Fisher, 1997; Fisher, Hammond, Obermeyer, Raman, 1994). In situation of long lead times, lower rate of delivery and high demand uncertainty, postponement in manufacturing and logistic system can create economies of scale (Pagh & Cooper, 1998).

2.7 Competitive advantage

Competitive advantage is the ability of the organization to compete in the market with its competitors. Moreover, the competitive advantage also refers to the extent of the defensible position under the competition over the competitors. In addition, it also refers that the capability of the company that allows to differentiate it from the competitors in the market Tracey, M., Vonderembse, M. A., & Lim, J. S. (1999). Furthermore, Koufteros, et,al (2005) found in their study that the capabilities that provide the competitive advantage to the company include; premium price, dependable delivery, customer quality, production innovation and competitive pricing. The firm that has above-mentioned capabilities is considered that the firm has a competitive advantage over its rivals in the market.

The degree of defensiveness of a firm among its competitors is known as competitive advantage (Porter, 1995; McGinnis & Vallopra, 1999). Competitive advantage can distinguish one organization from its competitors and can be obtained by better management decisions (Tracey, Vonderembse & Lim, 1999). As far as empirical literature is concerned, there are concepts such a price, cost, product quality and delivery are crucial competitive capacities of the organization (Tracey, Vonderembse & Lim, 1999; Skinner, 1985). Some recent studies discovered competition in terms of timing. For instance, according to Stalk (1988), Vesey (1991), Handfield and Pannesi (1991), Kessler and Chakrabarti (1962), and Zhang (2001) time is the leading factor and can determine competitiveness in organization. As per Koufteros et al. (1997) introduce a research framework and includes five major key areas: competitive pricing, premium, value to customers, reliable delivery and production innovation.

2.8 Organizational Performance

Organizational performance is defined as the ability of the organization that achieves the market oriented and financial goals of the organization Becker, B., & Gerhart, B. (1996). The short-term goals of the implementation of SCM practices are to enhance the productivity, cycle time and inventory of the firm Podsakoff, P. M., & MacKenzie, S. B. (1997). In addition, the long term goals of the implementation of practices of SCM are to enhance the profits, market share and investment of the company and all the other entities of supply chain. “Financial metrics” are considered as a vital tool of comparing and measuring organizational behavior over time Dess, G. G., & Robinson Jr, R. B. (1984). The effective supply chain leads to increase the organizational performance by providing a competitive advantage to the firm. Most of the

previous studies used the financial as well as market criteria to measure the organizational performance variable of the study.

It refers to the level how organization achieves its market oriented as well as financial goals (Yazmin, Gunasekruan & Mavondo, 1999). Many short-term organizational goals such as increase productivity, reduce inventory and frequent cycle while the long-term goals are to increase the pie and overall profit the entire members engaged in supply chain (Tan, Kannan & Handfield, 1998). In order to compare organization in terms of their growth, financial indicators have been often used by (Holmberg, 2000). Organizational performance is directly related to the level supply chain management practices.

Traditionally, supply chain management involves an improvement in efficiency and effectiveness of the organization (Bakos and Treacy, 1986; Sufian, 2010). As per the researcher such as Earl (1989) and Sophian (2010), supply chain management strategies are similar to other business strategy. As there are rules for others business strategy so there must be for supply chain management practices.

Organizational performance has been measured through financial and market indicators such as rate of return on investment, share in the market, amount of sale, and overall competitive positions (Vickery, Calantone & Droge, 1999), (Stock, Greis & Kasarda 2000) and (Zhang, 2001). Considering the above discussions, researcher has used the same indicators for organizational performance.

SCM practices affect both the performance of organization as well as their competitive advantage. These practices can improve competitiveness through the means of price, cost, delivery reliability and timely innovation. Different factors of SCM practices such as

customer relationship a positively affect organizational performance. For instance, supplier performance can be improved through proper partnership among key strategic members operating at supply chain management (Ragatz, Handfield & Scannell, 1997). In the same way, SCM practices can improve customer responsiveness and satisfaction (Power, Sohal & Rahman 2001). Integration in supply chain can be possible by proper broadcasting of information in the organization. That is to say quality information sharing among customer and supplier can improve organizational performance (Jarrell, 1998). Both the degree a quality of information has direct association with customer satisfaction (Spekman, Kamauff & Myhr, 1998), and quality in partnership (Lee & Kim 1999), and (Walton, 1996).

SCM practices and Organizational Performance

Several studies examine the capabilities of SCM practices with reference to organizational performance, and this section of the study provides a review of previous literature on the relationship between SCM practices and organizational performance. A study by Lin, et al. (2013) conducted on the supply chain of several industries in Hong Kong and Taiwan. They found that the organizational performance in term of customer satisfaction, strategies of supplier participation and reduction in the cost of products are influenced by the effective supply chain practices. They also revealed that effective SCM practices are a necessary element for the improvement of organizational performance of Hong Kong and Taiwan. Moreover, Green Jr, et al. (2015) conducted the study on Chinese firms by collected data from 142 operational managers and indicated in their study that SCM practices are the vital tool for the logistics performance. In addition, effective SCM practices are not only influenced the market performance of the firm but also have influenced the financial performance of the firm

positivity. Furthermore, Germain, et al. (2014) conducted the study on the variability of SCM process to check the level of inconsistency regarding the impact of SCM practices and revealed that variability in the process of SCM could improve the financial performance of the firm. Based on all studies mentioned above, this study develops the following hypothesis:

H1: There is positive relationship between supply chain management practices and organizational performance.

SCM practices and Competitive Advantage

The Moderating Role of Competitive Advantage Between Supply Chain Management Practices and Organizational Performance:

H2: Competitive advantage moderates the relationship between SCMP and organizational performance.

As per contingency theory, organizational performance directly depends on some key internal strategic positions. For instance, according to Nelson and Winter (1982) only the daily operations can say a lot regarding organizational capabilities. Similarly, in some studies such as Ketokivi and Schroeder (2004) routineness in organization is difficult to achieve. In some other studies, for instance, Dean and Snell (1996) identified that the shortage of optimal response on the part of customer can negatively affect the performance of organization.

Relationship between Supply Chain Management Practices and Competitive Advantage:

The SCM practices enable that create a competitive advantage for the firm in the market. In addition, Markley and Davis (2016) conducted the study on sustainable practices of the supply chain by using secondary data and indicated that sustainable practices of SCM could create a competitive advantage for the firm. Moreover, Ling and Ogunmokun (2017) mentioned that the topic of competitive advantage with practices of SCM was ignored by previous studies. They also indicated that competitive advantage could be achieved through the effective practices of the supply chain. Similarly, a study by Scannell, et al. (2008) conducted on the automotive industry and indicated that positive practices SCM could be able to bring the competitive advantage for the SCM implemented firmly. Based on all studies mentioned above, this study develops the following hypothesis:

H3: there is positive relationship between supply chain management practices and competitive advantage.

Competitive advantage includes lower prices, greater reliability, and takes shorter time in delivery. These capabilities are crucial for organization to achieve competitive advantage of the organization. There is a positive correlation between competitive advantage and economic performance, customer satisfaction and loyalty. For instance, brands having higher customer loyalty are associated overall lower competition or very few competitors in the market and ultimately increase sales and profits of the (Moran, 1981).

Relationship between organizational performance and competitive advantage:

Several studies examine the capabilities of competitive advantage with reference to the organizational performance, and provides the review of previous literature on the relationship of “competitive advantage” and organizational performance. Moreover, Collins and Clark (2016) conducted the study on 73 firms and revealed that the competitive advantage creates the extra demand for the products that enhance the performance of the organization. Similarly, a study by Yamin, et al. (2011) conducted a study on the manufacturing companies of Australia. They indicted in their study that growing competition in the market is required to take the competitive advantage on the rivals exist in the market. This competitive advantage can lead the organization to improved financial performance. In addition, Agha, et al. (2018) conducted the study on the paint industry in the UAE by collecting data from 77 managers. They analyzed in their study that any type of competitive advantage can improve the process of the business that can lead the business towards high performance. Based on all studies mentioned above, this study develops the following hypothesis:

H4: there is positive relationship between organizational performance and competitive advantage.

Organizations that provide high-quality products can charge high prices, increasing their sales profits and return on investment. An organization with a short time to market and rapid product innovation capabilities may be the first organization to enter the market and therefore enjoys higher market share and sales. Therefore, a positive relationship between competitive advantage and organizational performance can be proposed.

The Mediating Role of Competitive Advantage Between Supply Chain Management Practices and Organizational Performance:

The effective practices of SCM can create a competitive advantage for the firm, and this advantage improved the performance of the firm. A study by Cao and Zhang (2013) found that the supply chain improves the collaboration between the firm and its suppliers, that create collaboration advantage for the firm that helps the organization to improve its performance. Similarly, Huo (2006) conducted the study on 617 Chinese companies and indicated in his study that SCM practices increase the internal and external integration, and this competitive advantage can increase the firm performance. Moreover, the practices of supply chain enhance the relationship with suppliers, vendors and customer. This competitive advantage also increases the performance of the firm (2003). Based on all the studies mentioned above, this study develops the following hypothesis:

In the past different studies have been analyzed the association between performance of organization and competitive advantage and proposed a significant positive association between the two variables.

H5: competitive advantage mediates the relationship between SCMP and organizational performance.

(i) Competitive Advantage as a Mediator:

It is observed that entrepreneurial competencies and performance can be mediated by the revenues generated by the organization and how it handles it within short period of time. According to the research article of Shehadeh and Mansour (2019), competitive advantage

comes under a significant mediator when it comes to investigating the association of financial performance and intellectual capital. Whenever a firm is having a competitive advantage, it is able to increase its performance and chances of generating the retained customers significantly increase. Mucai et al. (2018) also added that competitive advantage is basically associated with increasing the performance of an organization and increasing the worth of products. In addition, the influence of performance and entrepreneurial competency can only be mediated with the help of competitive advantage, because it demands the use of effective leadership style.

In order to achieve desired competitive advantage, it becomes necessary that all the organizations work with motivation and adopt desired leadership style, which can elevate the performance of the workers. Mucai et al. (2018) argued that most of the organizations suffer from the problems of gaining competitive advantage because their human resource management is ineffective. Furthermore, they added that human resource management can result in the development of competitive advantage, which in turn can liberate the performance of the firms. Arguing with the statement, Sihite (2018) wrote that according to resource based-theory, it becomes necessary that human resources are considered one of the most critical resources for gaining competitive advantage, however, some organizations still suffer from getting the right people who are skillful and at the same time competitive.

Entrepreneurial competency also comes under an intangible asset, which can improve the performance of a firm. Sihite (2018) argued that intangible assets should be divided into three segments, which can provide a competitive advantage. Those three categories include internal structure, employee competencies and development of external structures. However, Hakimi,

Zeinaddini and Soltani-Nejad (2016) added that entrepreneurial competencies cannot be generated without the support of extensive knowledge, working attitudes, behaviors and reliable skills, which can significantly influence the performance. Therefore, these are some of the challenges being faced by the organizations, which can also bring their motivation level down, if the firm does not gain competitive advantage for a long period.

Most of the studies have been carried out in the context of entrepreneurial competencies, but the theories are based on the business of western culture. Hakimi, Zeinaddini and Soltani-Nejad (2016) observed that most of the analytical and theoretical models in the field of entrepreneurial field were presented by American scholars and human resource managers. They only reflected the western, environmental, cultural and contextual characteristics. Supporting the argument, Shehadeh and Mansour (2019) also wrote that most of the studies have been carried out in the European region, which might not be beneficial for the Eastern region, where business environment is so different. However, it can be argued that competitive advantage can be gained with the assistance of the good customer reviews, and it also leverages organizational performance.

(ii) Competitive advantage as a moderator

Competitive advantage can significantly influence the performance of the organizations by leveraging the performance of the firms. Despite knowledge of the influence, which is created by the firms, it is observed that SMEs who want to gain competitive advantage is using this as the moderator in different fields. Navarro-Garcia et al., (2016) argued that competitive advantage is increased by the organizations by working on their capabilities, however, small and big organizations use them according to their business

challenges as the moderators. For example, new firms focus on innovation, because it gives them a chance to gain competitive advantage within quick succession of time. However, Lin et al. (2018) suggested young firms focus more on innovation by acting proactively and aggressively in the business market. However, not many firms have the capabilities and resources in the start to take so many risks. It can be argued that most of the organizations do not use innovation for bringing the competitive advantage, which sometimes results in the development of low revenues and competitive advantage.

Some studies also reported conflicting arguments, whether a firm's age has any sort of relationship between competitive advantages achieved through innovation. Lin et al. (2018) argued that there are mixed findings, whether age and innovation are inter-related with each other. However, they argued that most of the companies can elevate the performance and competitive advantage by focusing on the performance of their workers and also increasing the innovation platform quickly (Lin et al., 2018). Another study of Amornpinyo (2018) also tried to investigate the performance of the firms by looking how competitive advantage can be used as the moderator to increase quality management practices and overcoming the problems of governance and finances. They argued that competitive advantage can be used for moderating quality management practices by teaching the employers (Amornpinyo, 2018). The development of competitive advantage, however, depends on a number of parameters. For example, technology can be used to speed up and operations, ultimately increasing quality management and moderating the revenues of that organization (Amornpinyo, 2018). This allows the management to increase their performance and ultimately moderate their competitive advantage.

The performance of the organizations can be increased if they focus on quality management and aim to moderate the competitive advantage. Saedi et al. (2019) argued that most of the firms can significantly elevate their competitive advantage by increasing their sales and also by focusing on quality management. Several research articles have been carried out on identifying the relationship between quality management and firm performance. Such as Navarro-Garcia et al. (2016) found that supplier's QM, quality data management, and training are associated with moderating the competitive advantage of the firms. However, operational performance must also be modified because it is highly associated with increasing the competitive advantage by improving relationship with the suppliers (Navarro-Garcia et al., 2016). Therefore, it becomes necessary to concentrate on the competitive advantage, by focusing on these factors.

2.9 Model

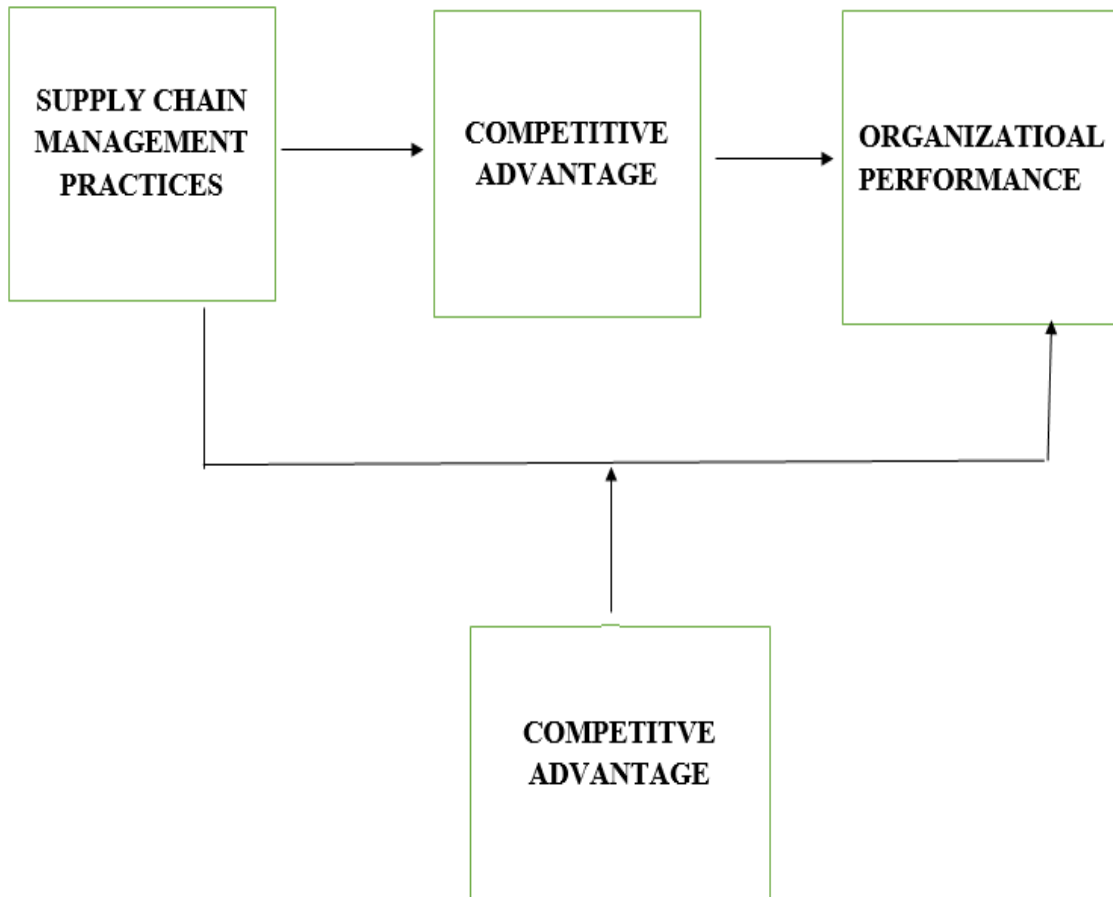


Figure 2.1: Model for Competitive Advantage

2.10 Theoretical Framework

There is a linkage among companies which makes a proper network for supply chain because of mass cooperation globally and vertical disintegration. Still challenges of effective coordination during supply chain management both at upper and downstream level has been manifested by strategic perspective. Organization offers quality products and services to their customers thus creates a supply chain between supplier and customer but at the same time concepts such as supply chain management practices and competitive advantage are somehow recent ideas as far as management literature is concerned. Even though SCM is not a new concept and relatively has gotten enormous appreciation, however, research focusing on identifying SCM for the system has not been investigated in detail. Since the performance of organization depends on environmental uncertainty, technological innovation, performance on the part of supplier and customer. Consequently, this study is devoted to introducing a proper framework under which the whole scenario of supply chain management can be understand and provides new researcher the opportunity to have both theoretical as well as empirical backgrounds on key structure of supply chain management. The final objective of this study is to explore the impact of supply chain management on organizational performance.

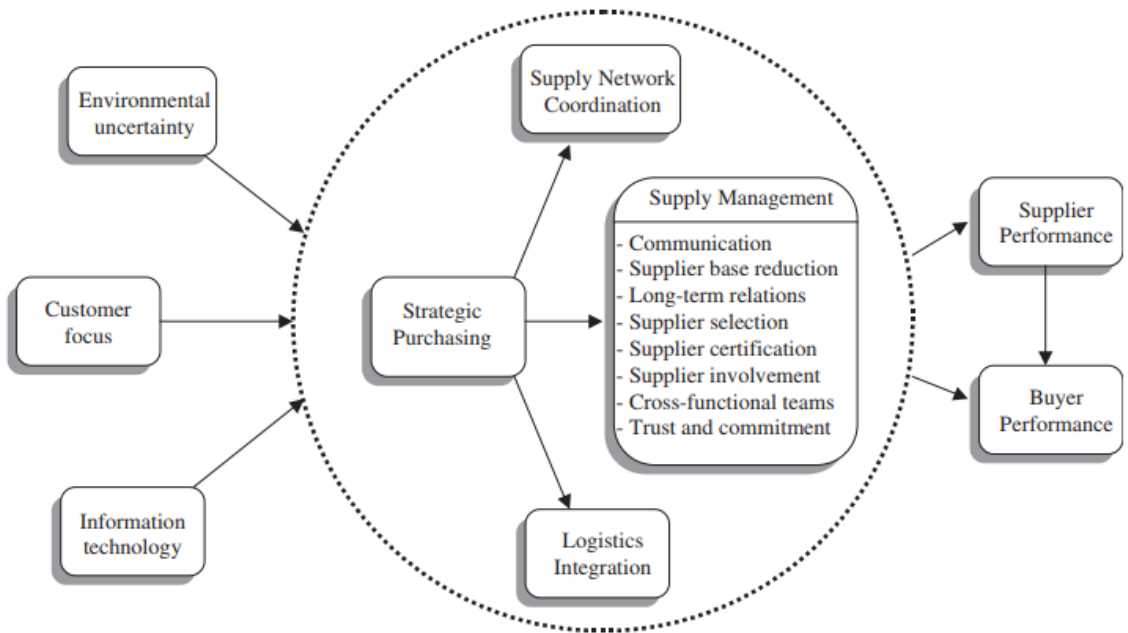


Figure 2.2: Strategic Purchasing

Chapter 3

Methodology

4.1 Demographics of Sample

There were four demographics includes in this study. The summary of each demographic variable is explained separately in following sections. Additionally, they were controlled in regression analysis.

Table 4.1: Gender of respondents

Variable	Frequency	Percent	Valid Percent	Cumulative Percent
Male	208	100.0	100.0	100.0

The analysis shows that from population the 100% participants were male from total sample size 208. This result is in line with the observation during the data collection phase. The target audience was middle line employees belonging to public sector organization, specifically the public sector in Hattar, where the majority of audiences were male employees performing their job.

Table 4.2: Education of respondents

Variable	Frequency	Percent	Valid Percent	Cumulative Percent
Bachelors	25	12.0	12.0	12.0
Masters	74	35.6	35.6	47.6
M.Phil./ MS	92	44.2	44.4	
Doctoral	17	8.2	8.2	91.8
Total	208	100.0	100.0	100.0

The qualification distribution of target audience shows that 12.0% respondents were graduates, there were 35.6 % employees who complete their master's degree qualification and 44.2% employees were having MS or MPhil degree and only 8.2% employees and having Ph.D. degree.

Table 4.3: Age of respondents

Variable	Frequency	Percent	Valid Percent	Cumulative Percent
20-25 years	23	11.1	11.1	11.1
25-30 years	105	50.5	50.5	61.5
30-35 years	66	31.7	31.7	93.3
35-40 years	12	5.8	5.8	99.0
40 and above	2	1.0	1.0	100.0
Total	208	100.0	100.0	

In current study from the targeted audience there were 11.1% employees who belong to the age limit of 20 to 25 years, 50.5% of the employees were lies in 25 to 30 years of age,

there were 31.7% employees working in organization were under 30-35 years of age range and 5.8% respondents were lies between the age of 35-40 years and 1.0% respondents were 40 years and above 51 years.

Table 4.4: Experience of respondents

Variable	Frequency	Percent	Valid Percent	Cumulative Percent
5-10 years	7	3.4	3.4	3.4
10-15 years	36	17.3	17.3	20.7
15-20 years	80	38.5	38.5	59.1
22-25 years	762	29.8	29.8	88.9
25 and above	523	11.1	11.1	100.0
Total	208	100.0	100.0	

Results shows that from total population of 208 respondents there were 3.4 % employees who have 5 to 10 years of experience of job, there were 17.3 % employees in organization who have 10 to 15 years of job experience, 38.5 % employees have 15 to 20 years of experience, 29.8 % employees were lies in 20 to 25 years of experience and there were only 11.1% employees who are having 26 years of experience.

Table 4.5: Designation of respondents

Variable	Frequency	Percent	Valid Percent	Cumulative Percent
Top Management	65	31.3	31.3	31.3
Middle Management	130	62.5	62.5	93.8
Lower Management	13	6.2	6.2	100.0
Total	208	100.0	100.0	

Results shows that from total population of 208 respondents there were 31.3% employees are in the top-level management, there were 62.5 % employees in organization who are in the middle level management and only 6.2 % employees in the organization are in the lower level management.

In this section, the methods used for conducting quantitative studies is discussed. It includes research design, sampling and data collection techniques, and data analysis methods.

3.1 Research Design

3.1.1 Type of study

The research is Quantitative in nature where data collected from primary resource is analyzed.

3.1.2 Study Setting

A field survey approach is used for this study which is the most suitable tool to get opinions from sample when faced with time constraint. The sample respondents i.e. the managers on their jobs to fill the questionnaire in their actual work environment.

3.1.3 Time Horizon

The data is cross-sectional in nature and will be collected over an estimated time of one to two months.

3.1.4 Area of Study

The survey is carried out in Hattar, Islamabad and Abbottabad.

3.1.5 Research Interference

There is no or minimal research interference and this research is based on field study. The sample mainly consists of upper, middle and lower managers from different organizations located in Hattar, Islamabad and Abbottabad. Data is collected through an adapted questionnaire. Almost 250 questionnaires were distributed and 208 questionnaires are analyzed. The convenient sampling technique is used due to time limitations. The cover letter will be explicitly indicating that the study is being conducted for academic research purposes only and is aimed at providing clear understanding of the topic “competitive advantage as a mediator and moderator between supply chain management practices and organizational performance”. Participants were assured of the confidentiality of their responses and anonymity so that the respondents feel free to fill in the questionnaire without hesitation.

3.2 Unit of Analysis

The unit of analysis for this research thesis are the upper, middle and lower managers.

3.3 Population and Sampling

3.3.1 Population

The population of the current study comprises of the managers of organizational sector. An approximation of the population of managers of organizational sector of Hattar, Islamabad and Abbottabad were made.

3.3.2 Sampling

Convenient sampling, a type of non-probability sampling, is used. The data is collected through an adapted questionnaire and 250 questionnaires were distributed to form a reasonable sample size.

3.4 Data Collection

Non probability sampling is used in the study to collect data. Convenient sample technique incurs relatively less time and financial costs as compared to other sampling techniques therefore will be instrumental in selecting the sample size quickly and efficiently.

3.4.1 Instrument Development

To fulfill the requirement of this study and data collection, the responses are collected from the respondents through questionnaires. The questionnaires are taken from the previous study developed by different scholars. The study used hypothesis testing to find out the relationship between supply chain management practices and organizational performance with competitive advantage as a mediator and moderator. The questionnaires consist of demographic variables such are respondent profile (gender, age, education and income etc.). The responds will be

measured on 5 point Likert scale that were 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree. All items are based on scale.

3.4.2 Independent Variables

There are one independent variables for this study which is “supply chain management practices”.

3.4.3 Control Variables

One-way ANOVA is performed to control for variations in dependent variable(s), if any.

3.4.4 Data analysis procedure

Data is analyzed using SPSS and following procedures/tests will be carried out:

- Outlier Analysis
- Missing values
- Frequency distribution
- Descriptive statistics
- Reliability analysis
- One Way ANOVA
- Correlation Analysis
- Regression Analysis

Chapter 4

Results and Analysis

In this chapter the results of collected data are explained. SPSS software is used to analyze the data. Analysis includes the reliability analysis, correlation analysis and regression analysis. Step wise regression is also performed to check the moderation analysis and for mediation the preacher and haze method is used.

4.2 Reliability Analysis

Result of reliability analysis includes are the variables instrument's reliability present in the model. Where supply chain management practices show 0.802 Cronbach alpha reliability, competitive advantage shows 0.654 and organizational performance having 0.704 Cronbach alpha reliability.

Table 4.6: Reliabilities of the scales

Variable	Cronbach Alpha
Supply chain management practices.	.802
Competitive advantage.	.654
Organizational performance.	.704

4.3 Correlation Analysis

Correlation analysis is run to see that how the variables are statistically significantly correlated with each other. The results are mention in following table.

Table 4.7: Correlation table

Variables.	1	2	3	4
1. SCMP	1			
2. CA	.441**	1		
3. OP	.347**	.268 **	1	

N=208, **p<0.01.

The above table contains the results of correlation among variables studied in current study such as; supply chain management practices (SCMP), competitive advantage (CA) and organizational performance (OP). supply chain management practices are significantly positively correlated with competitive advantage at 0.441**, organizational performance at 0.347**. Competitive advantage is positively correlated with organizational performance at 0.268**. All variables are positively correlated with each other at 0.01 levels which are in line with hypothesized model.

4.4 Regression Analysis

Regression analysis is run to check the relationship between propose model. The results of regression analysis are mentioned in coming tables.

Table 4.8: Regression analysis for relationship between supply chain management practices and organizational performance

Predictors	Organizational performance		
	B	R ²	Δ R ²
Step 1		.359	
Control Variables			
Step 2			
Supply chain management practices	.116***	.422	.064***

* $p < .05$ ** $p < .01$, *** $p < .001$,

In first step demographic variables were controlled. The results of regression analysis show in second step that one unit change in supply chain management practices will bring 0.116*** units change in organizational performance. The relationship is statistically significantly positive at $p < .001$ and hypothesis is accepted that supply chain management practices is positively associated with organizational performance.

Table 4.9: Regression analysis for relationship between supply chain management practices and competitive advantage

Predictors	Competitive advantage		
	B	R ²	Δ R ²
Step 1			
Control Variables		.073	
Step 2			
Supply chain management practices	.599***	.160	.088***

* $p < .05$ ** $p < .01$, *** $p < .001$,

In first step demographic variables were controlled. The results of regression analysis show in second step that one unit change in supply chain management practices will bring 0.599*** units change in organizational performance. The relationship is statistically significantly positive at $p < .001$ and hypothesis is accepted that supply chain management practices is positively associated with competitive advantage.

In first step demographic variables were controlled. The results of regression analysis show in second step that one unit change in competitive advantage will bring .198* units change in organizational performance. The relationship is statistically significantly positive at $p < .001$ and hypothesis is accepted that competitive advantage is positively associated with organizational performance.

Table 4.10: Regression analysis for relationship between competitive advantage and organizational performance

Predictors	Organizational performance		
	B	R ²	Δ R ²
Step 1		.179	
Control Variables			
Step 2			.017*
Competitive advantage	.198*	.196	

* $p < .05$ ** $p < .01$, *** $p < .001$,

4.5 Moderated Regression Analysis

Table 4. 11: Hierarchical Moderated Regression Analysis

Predictors	Organizational performance		
	B	R ²	Δ R ²
Step 1			
Control Variables		.179	
Step 2			
Supply chain management practices	.811***		
Competitive advantage	.070	.262	.083***
Step 3			
SCMP*CA	.798*	.280	.017*

* $p < .05$ ** $p < .01$, *** $p < .001$,

The above table shows the moderation regression analysis results. In first step the effect of demographic variables was mentioned. In second step the impact of supply chain management practices and organizational performance were regressed. Where the result of regression analysis shows the insignificant relation between supply chain management practices and organizational performance. Results show that in third step after incorporating

of interaction term such as supply chain management practices*organizational performance the change in R^2 is significant. According to regression analysis results the competitive advantage is statistically significantly moderate the relationship between supply chain management practices and organizational performance leads towards the acceptance of hypothesis that competitive advantage moderates the relationship between SMMP and CA in such a way that relationship will strong when CA is high than low.

4.5 Moderation Graph

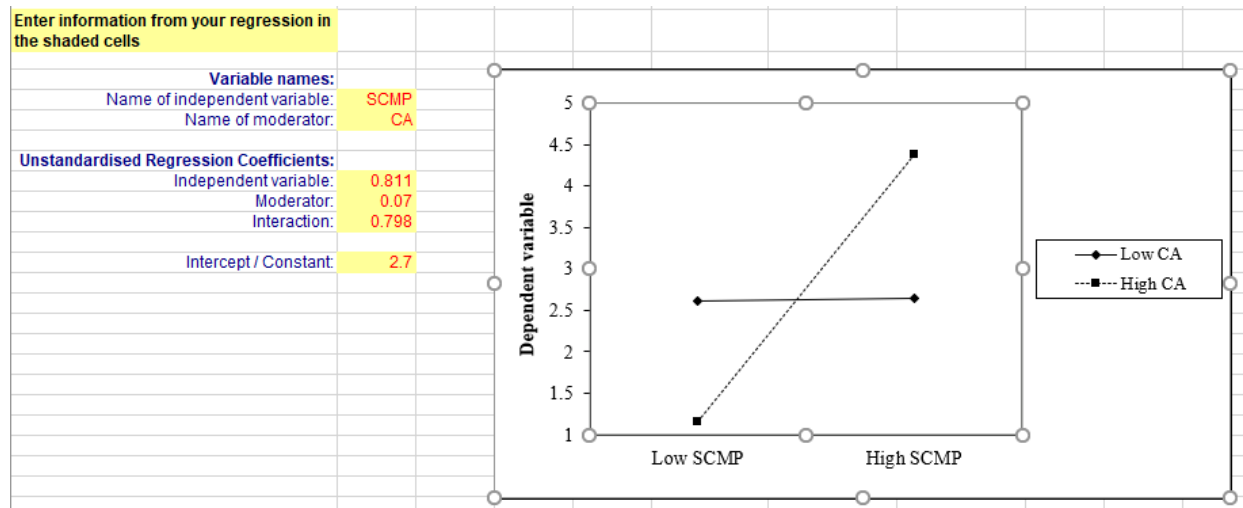


Figure 4.1: Moderation Graph

4.6 Mediation Regression Analysis

Table 4.12: Mediation effect of competitive advantage between supply chain management practices and organizational performance

Competitive advantage →	supply	.6793	.1759	3.9287	.000
chain management practices					
competitive →	advantage	.3375	.1705	1.9880	.049
organizational performance					
organizational performance →	supply	.6793	.1729	3.9287	.000
chain management →	practice				
competitive advantage					
Bootstrap results for indirect effect	Indirect Effect	LL	95% UL	95% CI	CI
	.1508	.0917	.0168		

Notes: Un-standardized regression coefficients reported. Bootstrap sample size 1000.

LL=Lower Limit; CI= Confidence Interval, UL=Upper Limit.

The above table shows the regression analysis results using Preacher and Hayes method. By following step wise mediation in first step the direct effect of supply chain management practices (IV) is checked on competitive advantage. Results indicate a significant relationship at beta value of .6793 where $p < .000$. In second step the impact of organizational performance is checked on mediating variable competitive advantage also significant relationship where beta value is .3375 at $p < .0049$. In third step the direct effect is checked where beta value is

.6.793 at $p < .000$. The indirect effect is .1508 which lies between .0917 to .0168. This result shows that competitive advantage significantly mediates the relationship between supply chain management practices and organizational performance.

4.7 Accepted / Rejected Hypothesis

Hypothesis	Statements	Results
H1	There is positive relationship between supply chain management practices and organizational performance.	<i>Accepted.</i>
H2	Competitive advantage moderates the relationship between SCMP and organizational performance.	<i>Accepted.</i>
H3	There is positive relationship between supply chain management practices and competitive advantage.	<i>Accepted.</i>
H4	There is positive relationship between organizational performance and competitive advantage.	<i>Accepted.</i>
H5	Competitive advantage mediates the relationship between SCMP and organizational performance.	<i>Accepted.</i>

Chapter 5

Discussion and Conclusion

5.1 Discussion

This last section of the study provides a discussion regarding the results that are mentioned above in the study. Moreover, it also provides the comparison of current study results with the results of past studies, and finally, it presents the conclusion, the suggestion to future researchers and limitations of the study. Increase the performance of an organization is the prime goal of every personal in the world. The focus of the organization is only on the enhance the performance by applying different strategies and tools in the business processes. Supply chain practices the major tool that boosts up the process of the business in a way that it enhances the capacity of the firm to perform better and generate more profit for the business. This study also investigated the SCM practices impact on the performance of the business with the mediating role of competitive advantage. The results revealed that the effective practices of SCM could increase the performance of the company. The results are similar to Zhu (2012) who also found that SCM practices play a major role in the performance of the firm. Moreover, the results are also indicated that SCM practices can also bring a competitive advantage. The results are also aligned with the results of Jones (2005), who also proved that the supply chain could gain a competitive advantage. The results also found that the competitive advantage can also become the reason to increase the performance of the firm. The results are also similar to the results of Newbert (2002) who also indicated the positive association between competitive advantage and firm

performance. In addition, the results proved that the practices of SCM could increase the performance by gaining the competitive advantage. SCM practices bring the competitive advantages for the firm and this advantage improve the performance of the firm. The results are aligned with results of Harrison and Chan (2013) who found that supply chain gains the competitive advantage that achieves the high performance goal of the firm. Finally, this study concluded that effective practices of SCM could increase organization performance and also brings a competitive advantage for the firm. In addition, competitive advantage has a positive association with organizational performance. Moreover, it also concluded that SCM practices bring the competitive advantage that leads the companies towards high financial and market performance. Thus, the competitive advantage mediates the relationship between the practices of SCM and organizational performance.

5.2 Research Implications and Limitations

This study has several limitations that are the gaps for future researchers. This study uses only one factor to measure the performance of the firm. There are several factors are also existing that influenced the performance of the firm. The scope of the study is very limited, only one industry is used for the analysis and ignored the other important industry. Moreover, this study focus only one country and ignored the cross country analysis. Thus, this study is highly recommended to the future research that the incorporate the above mentioned gaps and explore this area in a different perspective.

This study confirms the SCM practice framework, which is often undefined, and its meaning is highly variable in people's understanding. Although some organizations have realized the

importance of implementing SCM, they often do not know exactly what to implement due to a lack of understanding of what constitutes a comprehensive practice of SCM. By proposing, developing and verifying multi-dimensional operational metrics of the SCM practice framework and demonstrating its effectiveness in enhancing organizational performance and competitive advantage, this study provides SCM managers with a useful tool for assessing their comprehensiveness in current SCM practices. We have proven that supply chain management practices constitute a second-order structure consisting of first-order structures such as strategic supplier partnerships, customer relationships, information sharing levels, information sharing quality, and postponement, which are the five main components of supply chain management practices section. By analyzing the relationship between supply chain management practice structure and competitive advantage, it is proved that supply chain management practice may directly affect competitive advantage. Therefore, the results of this study point to the importance of SCM practice for organizations. As today's competition transitions from "inter-organizational" to "inter-supply chain," more and more organizations are increasingly adopting SCM practices to reduce supply chain costs and ensure competitive advantage. The findings of this study support the notion that supply chain management practices can have a significant impact on competitive advantage and organizational performance. It should be noted that the practice of supply chain management may be affected by contextual factors, such as the type of industry, the size of the company, the status of the company in the supply chain, the length of the supply chain, and the type of supply chain. For example, a company at the end of the supply chain (near the consumer) may have a higher level of customer relationship practice as measured by customer satisfaction and expectations. Large organizations may have higher-level SCM practices because they often have more

complex supply chain networks and therefore need to manage the supply chain more effectively. The level of information quality can be negatively affected by the length of the supply chain. As information travels through the supply chain, it suffers from delays and distortions. The shorter the supply chain, the fewer opportunities for distortion. In addition, higher levels of latency may be related to make-to-order and make-to-stock production systems. Due to the limited number observed, constructs were not revalidated in this study. The lack of systematic validation studies hinders the general consensus on instrument use. Future research should revalidate the scale of measurements developed through this research. Because the concept of supply chain management is complex and involves a network of companies that produce and deliver the final product, a single study cannot cover its entire domain. Future research can expand the scope of SCM practice by considering other aspects, such as geographic proximity, just-in-time capacity / lean capabilities, cross-functional coordination, logistics integration, and agreed supply chain leadership, which were ignored in this study. Future research can also test relationships / dependencies between the five dimensions of SCM practice. For example, information sharing may require strategic supplier partnerships. The data for this study consisted of responses from a single respondent in the organization, which could be the cause of possible response bias. This limitation must be considered to explain the results. The use of a single respondent may cause some measurement errors. Future research should seek to leverage multiple respondents from each participating organization to enhance research results. Respondents using organizational pairs from both ends of the supply chain will also be of interest. By comparing the different perspectives of organizations on SCM practices throughout the supply chain, the strengths and weaknesses of the supply chain can be determined, as can the best SCM practices throughout

the supply chain. Future research can study supply chain management issues at the supply chain level. Take a single supply chain as an example, study the characteristics, policies and mechanisms of the supply chain, all participants in the supply chain (first-tier suppliers, second-tier suppliers, manufacturers, operators, customers, etc.), and each participant Differences in SCM practices between organizations. Future research can also examine suggested relationships by introducing some context variables such as organization size and supply chain structure into the model. For example, it will be interesting to investigate how SCM practices differ across the organization. It will also be interesting to study the impact of supply chain structure (supply chain length, organization's position in the supply chain, channel structure, etc.) on supply chain management practices and competitive advantages.

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Appendix

Questionnaires

Pakistan Institute of Development Economics Islamabad

M.Phil Business Economics

Dear Respondent!

I am a student of M.Phil. Business Economics at Pakistan Institute of Development Economics, Islamabad. I am carrying out a research on “Competitive Advantage as a Mediator and Moderator Between Supply Chain Management Practices and Organizational Performance: Evidence from Pakistan”. The questionnaire will be used for research which is a part of my study. The aim of this questionnaire is to find out relationship between customer

relationship strategy and firm performance in organizational sector of Pakistan. It should not take more than 10 minutes to fill the questionnaire as all of questions just need to tick proper or suitable answer. These questions show your experiences in your current job and organization. Your answer will be kept strictly confidential and will only be used for research purposes. Your name will not be mentioned anywhere on the document so kindly give a neutral and fair opinion to make research successful. I requested you to fill this questionnaire. Your collaboration is highly appreciated. If you need findings of this research, please send a request to znimra32@gmail.com

Thanks once again for your time and cooperation.

Nimra Zaib

M.Phil. Scholar

Questionnaire 1

<p>Scale of questionnaire is as follows: 1 = minimum to 5 = maximum</p>

Please tick the appropriate answer or fill in the box

Demographics

1. Level of Management

Top Management

1

Middle Management	2
Lower Management	3

2. How long you have been employed in this organization (Years)?

3. What is your highest qualification?

Bachelors	1
Masters	2
M.Phil/MS	3
Doctoral	4

4. What is your marital status?

Married	1
Un-married	2

5. What is your Gender?

Male	1
Female	2

6. What is your age?

Questionnaire 2

Scale of questionnaire is as follows: 1 = minimum to 5 = maximum

SUPPLY CHAIN MANAGEMENT PRACTICES (SCMP):

Items	1	2	3	4	5
We consider quality as our number one criterion in selecting suppliers.					
We regularly solve problems jointly with our suppliers.					
We have helped our suppliers to improve their product quality.					
We have continuous improvement programs that include our key suppliers.					
We include our key suppliers in our planning and goal-setting activities.					
We actively involve our key suppliers in new product development processes.					
We frequently interact with customers to set reliability, responsiveness, and other standards for us.					
We frequently measure and evaluate customer satisfaction.					
We frequently determine future customer expectations.					
We facilitate customers' ability to seek assistance from us.					
We periodically evaluate the importance of our relationship with our customers.					

We inform trading partners in advance of changing needs.					
Our trading partners share proprietary information with us.					
Our trading partners keep us fully informed about issues that affect our business.					
Our trading partners share business knowledge of core business processes with us.					
We and our trading partners exchange information that helps establishment of business planning.					
We and our trading partners keep each other informed about events or changes that may affect the other partners.					
Information exchange between our trading partners and us is timely.					
Information exchange between our trading partners and us is accurate.					
Information exchange between our trading partners and us is complete.					
Information exchange between our trading partners and us is adequate.					

Information exchange between our trading partners and us is reliable.					
Our products are designed for modular assembly.					
We delay final product assembly activities until customer orders have actually been received.					
We delay final product assembly activities until the last possible position (or nearest to customers) in the supply chain.					

Questionnaire 3

Competitive Advantage (CA):

Items	1	2	3	4	5
We offer competitive prices.					
We are able to offer prices as low or lower than our competitors.					
We are able to compete based on quality.					

We offer products that are highly reliable.					
We offer products that are very durable.					
We offer high quality products to our customer.					
We deliver the kind of products needed.					
We deliver customer order on time.					
We provide dependable delivery.					
We provide customized products.					
We alter our product offerings to meet client needs.					
We respond well to customer demand for “new” features.					
We deliver product to market quickly.					
We are first in the market in introducing new products.					
We have time-to-market lower than industry average.					

Questionnaire 4

Organizational Performance

Items:	1	2	3	4	5
Compared with key competitors, our company is more					

successful.					
Compared with key competitors, our company has a greater market share.					
Compared with key competitors, our company is growing faster.					
Compared with key competitors, our company is more profitable.					
Compared with key competitors, our company is more innovative					