THE IMPACT OF SERVICES SUPPLY CHAIN ORIENTATION ON PERCEIVED INDUSTRIAL SERVICE QUALITY: AN EMPIRICAL ANALYSIS

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ABSTRACT

The Impact of Services Supply Chain Orientation on Perceived Industrial Service Quality: An Empirical Analysis

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Although there exists an increasing interest on the concepts of services management, supply chain orientation and service quality in business-to-business contexts, research focusing on the relationship between those concepts is still scarce. The extant literature frequently implies the need for unifying the understanding of services management, supply chain orientation and service quality in industrial context. However, up to date, no studies have specifically addressed the link and relationship between those concepts. In this context, this study attempts to contribute to the body of knowledge of marketing and logistics management by empirically investigating the relationship between

services supply chain orientation and perceived industrial service quality. More specifically, this thesis develops an empirically tested theoretical model that examines the impact of services supply chain orientation on industrial service quality.

The research utilizes a survey methodology. Based on the research model, multiple regression and correlation analyses were realized. Findings support several hypothesized relationships between the variables, as proposed in the research model. The findings of the research reveal that services supply chain orientation have a strong and positive impact on perceived service quality. With regard to these findings, the relationships between the dimensions of services supply chain orientation and industrial service quality are presented as well.

This thesis provides significant contributions both to theory and practice by developing and validating a model that explains the relationship between services supply chain orientation and perceived industrial service quality, establishing clear definitions to ambiguous concepts found in literature, and addressing to the theoretical gaps.

Keywords: Services Supply Chain Management, Services Supply Chain Orientation, Industrial Service Quality

ÖZET

Hizmet Tedarik Zinciri Yöneliminin Algılanan Endüstriyel Hizmet Kalitesi Üzerindeki Etkisi: Bir Ampirik Analiz

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Hizmet yönetimi, tedarik zinciri yönelimi ve endüstriyel hizmet kalitesi kavramlarına olan ilginin artışına rağmen, bu kavramlar arasındaki ilişki üzerine yapılan araştırmalar hala az sayıdadır. Mevcut yazında; hizmet yönetimi, tedarik zinciri yönelimi ve endüstriyel hizmet kalitesi anlayışlarının bütünleştirilmesi gerekliliğine sıklıkla işaret edilmektedir. Ancak, şimdiye kadar yapılan çalışmalar içinde bu kavramlar arasındaki bağlantı ve ilişkiyi doğrudan açıklayan bir araştırma yer almamaktadır. Bu çalışma; hizmet tedarik zinciri yönelimi ile algılanan endüstriyel hizmet kalitesi arasındaki ilişkiyi ampirik olarak inclemek yoluyla

pazarlama ve lojistik yönetimi alanlarındaki mevcut yazına katkı sağlamayı amaçlamaktadır. Çalışmada, hizmet tedarik zinciri yöneliminin endüstriyel hizmet kalitesi üzerindeki etkisini inceleyen ve ampirik olarak test edilmiş bir teorik model geliştirilmiştir.

Araştırmada anket yöntemi kullanılmıştır. Araştırma modeli temel alınarak, çoklu regrasyon ve korelasyon analizleri gerçekleştirilmiştir. Sonuçlar, hipotezlerde yer alan değişkenler arası ilişkilerin çoğunu araştırma modelinde yer aldığı şekilde desteklemektedir. Araştırma sonuçları, hizmet tedarik zinciri yöneliminin algılanan endüstriyel hizmet kalitesi üzerinde güçlü ve pozitif bir etkisi olduğunu göstermektedir. Ayrıca araştırma sonuçları, hizmet tedarik zinciri yönelimi bileşenleri ile endüstriyel hizmet kalitesi bileşenleri arasındaki ilişkileri de ortaya koymaktadır.

Bu tezin teori ve uygulamaya katkısı temel olarak, hizmet tedarik zinciri yönelimi ile algılanan endüstriyel hizmet kalitesi arasındaki ilişkiyi açıklayan bir model geliştirilmesi ve bunun geçerliliğinin denetlenmesi yoluyla sağlanmaktadır. Ayrıca bu çalışma, ilgili yazındaki muğlak ifadelere açık tanımlamalar getirmekte ve teorik boşlukları doldurma yolunda önemli katkılar sağlamaktadır.

Anahtar Kelimeler: Hizmet Tedarik Zinciri Yönetimi, Hizmet Tedarik Zinciri Yönelimi, Endüstriyel Hizmet Kalitesi

To my family

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INTRODUCTION

Today, effective supply chain management, and accordingly supply chain orientation are the main keys to success for the companies operating in the competitive marketplace. Especially in the recent years, supply chain management and supply chain orientation have become the main determinants of business success and they provide a sustainable source of competitive advantage for the companies. Due to this reason, supply chain management notion received attention from many practitioners and academicians. However, most of the emphasis of academic research on supply chains has been manufacturing oriented. Although the concepts of supply chain management and supply chain orientation are thoroughly studied in the field of manufacturing, the concept and the potential benefits that will occur after the successful implementation of service supply chain management have recently been recognized by the businesses. Similarly, supply chain orientation concept, which has been suggested as the antecedent of supply chain orientation (Mentzer et al, 2001; Min, 2001), has not been studied in services context yet. Since the services have not been well managed and understood from a supply chain perspective, the services supply chain orientation also has not been investigated in detail and fully understood.

Furthermore, service quality, which is a critical potential outcome of services supply chain management, and accordingly services supply chain orientation, is the main focus area of service companies today. To increase service quality level is a significant objective for service providers and is one of the most important problems facing management of service companies today. Although service quality is a concept that has been studied in detail in the literature, there is a little work on service quality in industrial context. However, examining this issue from an industrial framework is essential as the ultimate service quality that is perceived by the end user is an outcome of the industrial service quality, which is generated along the supply chain.

In this context, this thesis aims to address the literature gaps mentioned above and to examine the relationship between services supply chain orientation and industrial service quality. The goal and significance of the study can be evaluated as discussed in the following section.

0.1. OBJECTIVE AND SIGNIFICANCE OF THE STUDY

The main objective of this thesis is determined as to investigate and better understand the relationship between services supply chain orientation and perceived industrial service quality by a structural model. Furthermore, this thesis aims to conceptualize the new and

popular concepts including services supply chain management, services supply chain orientation and industrials service quality. The main significance of this study is to address several literature gaps with a single structural model.

0.2. RESEARCH QUESTIONS OF THE STUDY

This research is motivated by the following questions:

- Is there a link between the level of buyers' service supply chain orientation and buyers' perceived industrial service quality of the service provider?

- To what extent do the supply chain orientation dimensions have an association with the dimensions of customer's perceived industrial service quality of the service provider?

- Can industrial service quality be predicted by the dimensions of supply chain orientation?

0.3. STRUCTURE OF THE THESIS

This thesis includes five chapters. An overview of the contents is as follows:

Chapter 1 presents a literature review on services supply chain management and services supply chain orientation. In this chapter, the concepts of 'supply chain', 'supply chain management' and 'supply chain orientation' are discussed as the conceptual base of 'services supply chain management' and 'services supply chain orientation'.

Chapter 2 focuses on the concept of service quality in industrial markets. This chapter firstly serves literature review on the notions of 'service', 'service business' and 'service quality'. This chapter also constitutes the reasons of a need for an industrial service quality construct.

Chapter 3 mainly presents the research methodology and constitutes the following topics: purpose of the research, research model, research questions, hypotheses, research design, sampling procedure, data collection method, pilot study, measurement of variables, and general analytical strategy.

Chapter 4 exhibits the findings of the research.

Chapter 5 provides a discussion of the findings. This chapter explores the implications of the findings for theory and practice, the contributions of the study, the limitations of the study and recommendations for future studies.

CHAPTER 1

LITERATURE REVIEW ON SERVICES SUPPLY CHAIN MANAGEMENT AND SERVICES SUPPLY CHAIN ORIENTATION

This chapter aims to provide a detailed review of literature basically on two important and new concepts: services supply chain management and services supply chain orientation. Firstly, the concepts of supply chain and supply chain management are examined in this chapter. Secondly, the notions of service business, services supply chain and services supply chain management are explained. Finally, supply chain orientation and services supply chain orientation concepts are presented.

1.1. SERVICES SUPPLY CHAIN MANAGEMENT

In the recent years, supply chain management and supply chain excellence have become the main determinants of business success and they provide a sustainable source of competitive advantage for the

companies (Bowersox and Closs, 1996). Therefore, the concepts have become a critical competitive weapon for all companies operating in an increasingly competitive global marketplace. Due to this main reason, there has been an extensive amount of academic work on supply chain management. However, the academic research on supply chain in service businesses is still scarce. In this section, firstly, the concepts of supply chain and supply chain management are presented. Then, the new notion, services supply chain management, is explored.

1.1.1. THE CONCEPT OF SUPPLY CHAIN

Although the terms “supply chain” and “supply chain management” are relatively new, the related research in the fields of marketing channels, inter-organizational operations, systems integration, operations research, organizational network design existed before. Supply chain (sometimes called the ‘value chain’ or ‘demand chain’); in fact have always existed throughout the economic history. Essentially, where a need for production exists there should also exist a supply chain system. Therefore, all organizations are part of at least one supply chain. Especially, with the development of manufacturing technologies in the 20th century, companies started to seek for greater efficiencies and lower prices. Due to the need of understanding consumer behavior and responding to the customer demand with the right products, the need for effective supply chain management is accelerated. Also, shorter life

cycles of the products and rapid development in information technologies increased customer expectations.

Supply chain and supply chain management requirements have dramatically increased to offer the customers of today (Coyle *et al.,* 2003). Therefore, the significance of customer service determinants such as delivery performance, order fill rate, product availability has heightened (Smith, 2002). In order to improve their customer satisfaction levels, supply chain management is being implemented by the firms due to many potential advantages including: reducing cost, increasing market share, sales revenue and effectiveness of customer relations (Ferguson, 2000). Accordingly, supply chain approach became a significant tool and guide for the companies. Therefore, the managers understood that their companies' abilities, competences and resources are not enough for their success. Through this realization, companies have focus on the whole supply chain by looking beyond their organizations' external boundaries (Blackwell, 1997; Christopher and Ryals, 1999; Fawcett and Magnan, 2002; Simchi-Levi et al., 2003).

As mentioned before, the supply chain and supply chain management concepts first appeared in recent decades in the literature. Especially, from the early 90's, the concepts have gained more attention. In fact, the increasing importance is based on the rising competitiveness in global markets and a number of changes, such as rising costs of

manufacturing, shortened product life cycles, and shrinking resources for manufacturing bases (Beamon, 1998).

Globalization and its related consequences called for interdependency of the various firms along a supply chain. Due to the global competition; many manufacturers tended to collaborate with their suppliers to improve the product quality. Therefore, it was understood by the managers that the competitive advantage could be achieved through the effective management of logistics systems and by being a member of an effective supply chain. Also, it was recognized that a single firm cannot control the entire product flow and operate effectively (Ballou, 1992; Lummus and Vokurka, 1999). Trends in global sourcing, emphasis on time and quality based competition, increasing environmental uncertainty are some other reasons for the popularity of these concepts (Mentzer *et al.,* 2001).

Subsequent to the above-mentioned facts, managers realized that they should focus on outside the company as well. They also understood that the resources of suppliers and customers may become significant inputs of their companies (Blackwell, 1997; Christopher, 1999; Fawcett and Magnan 2002). Some other reasons exist for the popularity of the concepts; for instance, new trends in global sourcing needs for coordinating materials, service and related information flow inside and outside the company, and increasing uncertainty of the environment.

For the businesses that perform in global markets, logistics networks become more important, expansive and complex. Therefore, understanding, analyzing, planning and managing these networks become more essential (Rushton *et al.,* 2000).

Due to its significance, both academicians and practitioners focused on the definition and scope of supply chain concept. As supply chain is a system based on an integrative concept, it is not surprising that it has attracted the attention of different businesses and academic disciplines as well (Rota *et al.,* 2002).

Although, supply chain was thought as just a chain or cycle of business with one to one; business to business relationships for many years (Lambert *et al.,* 1998 (a); Laseter and Oliver, 2003), in time, many definitions and aspects were added to the supply chain literature. Also, the supply chain has become a wider concept, as collaboration of the companies enlarges better beyond first-tier suppliers and customers. The concept mainly based on three flows that are materials, services and information.

Various definitions of a supply chain have been offered in the past several years. Since the number of erratic studies in the field of supply chain increase, many different definitions and explanations of the term

were proposed. A number of definitions of supply chain are presented in Table 1.

Table 1: Definitions of Supply Chain

Author(s)	***Year***	***Definition of "supply chain"***
Christopher	1992	"...the network of organizations that are involved, through upstream and downstream linkages, in different processes and activities that produce value in the form of products and services in the hands of ultimate consumer"
Davis	1993	"...is simply a network of material processing cells with the following characteristics: supply, transformation, and demand"
Lee and Billington	1993	"...is a network of facilities that performs the functions of procurement of material, transformation of material to intermediate and finished products, and distribution of finished products to customers"
The Supply Chain Council (cited in Lummus *et al.,* 2001)	1997	"...encompasses every effort involved in producing and delivering a final product, from the supplier's supplier to the customer's customer. Four basic processes-plan, source, make, deliver- broadly define these efforts, which include managing supply and demand, sourcing raw materials and parts, manufacturing and assembly, warehousing and inventory tracking, order entry and order management, distribution across all channels, and delivery to the customer"
Institute of Logistics (cited in Waters, 2003)	1998	"...is a sequence of events intended to satisfy a customer. It can include procurement, manufacture, distribution and waste disposal, together with associated transport, storage and information technology"

Table 1 (Continued)		
Author(s)	***Year***	***Definition of "supply chain"***
Beamon	1998	"… an integrated process wherein a number of various business entities (i.e., suppliers, manufacturers, distributors, and retailer) work together in an effort to: (1) acquire raw materials, (2) convert these raw materials into specified final products, and (3) deliver these final products to retailers"
Lummus and Vokurka	1999	"…all the activities involved in delivering a product from raw material through to the customer, including sourcing raw materials and parts, manufacturing and assembly, warehousing and inventory tracking, order entry and order management, distribution across all channels, delivery to the customer, and the information systems necessary to monitor all of these activities."
Mentzer et al.	2001	"… a set of three or more entities(organizations or individuals) directly involved in the upstream and downstream flows of products, services, finances, and/or information from a source to a customer"
Harrison and van Hoek	2002	"…is a group of partners who collectively convert a basic commodity (upstream) into a finished product (downstream) that is valued by end-customers, and manage returns at each stage"
Waters	2003	"…consists of the series of activities and organizations that materials move through on their journey from initial suppliers to final customers"

Although the terms supply chain and supply chain management are used interchangeably, it is important to emphasize that there is a significant difference between these two terms. As it mentioned before, supply chain have always existed and it still exists if there is a business. Although, the supply chain can be thought as a phenomenon of

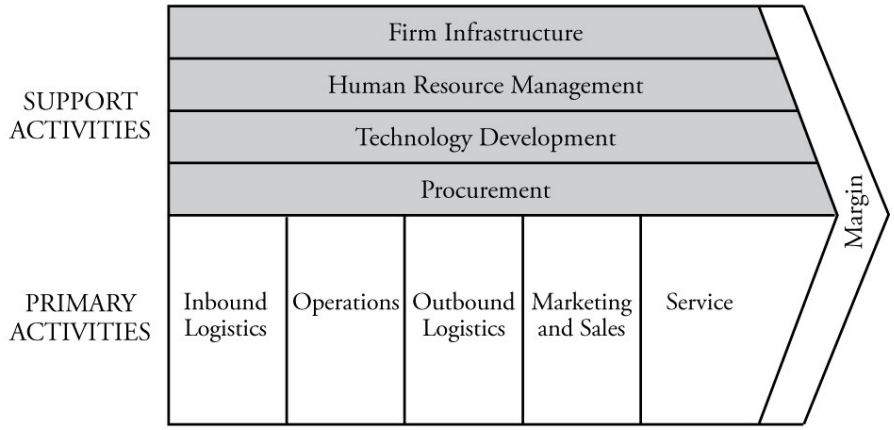
business, the management of this chain is another issue that cannot be always fulfilled.

1.1.2. THE CONCEPT OF SUPPLY CHAIN MANAGEMENT

The term 'supply chain management' first appeared in the literature in early 1980's, mostly in the context of 'logistics' (e.g. Houlihan,1984; Jones and Riley, 1985). Supply chain management notion attracted the attention of many practitioners and academicians. This is due to the fact that, significance of supply chain management has increased over the past two decades (Cooper *et al.,* 1997).

Porter's study on value chain plays a role as milestone for the supply chain management literature. Supply chain management essentially aims to create competitive advantage for the companies by increasing the value delivered to the customers (Stank *et al.,* 2005). The strategic point of view on supply chain management is based on Porter's study in 1985 which identifies conceptualization of the value chain and value system. In his study (1985), he made a great contribution to the literature by defining value chain as the basic tool for achieving competitive advantage. Porter's value chain is depicted in Figure 1.

Figure 1: The Generic Value Chain



Source: Porter, 1985

The importance of supply chain management notion for competitive positioning is recognized by the value chain concept. He stated that, "…differences among competitor value chains are a key source of competitive advantage". Approximately one decade later, Christopher's (1992) frequently cited statement as "…competition takes place between supply chains rather than between individual companies" supported Porter's view and transmitted his view to the supply chain management literature.

The second important approach that leads to development of supply chain management view is the 'system approach'. Initially, supply chain management was utilized only within the boundaries of a single company. The focus was on the interrelationships and coordination between different departments and operations of a single company such

as; production, sales, finance, marketing and distribution, in order to manage the materials flow (Laseter and Oliver, 2003). Also, a particular firm can be a unit of various supply chains. Therefore, the management of such chains is complex. In essence, nobody is able to manage the entire supply chain. Thus, it is impossible for a manager to manage a system from suppliers' supplier to customers' customer. Therefore, it is important to recognize that expectations and required knowledge can vary across supply chains (Fawcett and Magnan, 2002). Accordingly, it is nearly impossible to answer such a question: "who manages the supply chain?". Therefore, the supply chain and supply chain management concepts can only be realized in terms of the perceptions of individuals.

Actually, supply chain management reflects an approach of viewing supply chain as a single entity, rather than as a group of different units (Houlihan, 1988; Ellram and Cooper, 1990; Mentzer *et al.,* 2001). Supply chain management is a system in which each firm directly or indirectly affects the performance of all other entities in the chain as well as the performance of the whole chain (Cooper *et al.,* 1997, Lockamy III and McCormack, 2004). Due to the thought that the organizations cannot exist in isolation, the idea of supply chain management was initially along the lines of system approach. Because supply chain, in itself, is a system, the 'system approach' is the basis of this concept. The system approach, which was firstly proposed by

Ashby (1956) and von Bertalanffy (1940), simply states that "the elements of a system affects each other, and will act differently when isolated from their environment or other components of the system". Different components of the supply chain such as; suppliers, manufacturers, third party logistics firms, wholesalers, retailers and several supply chain activities that should be traded-off can be thought as the components whole system (Lambert *et al.,* 1998 (b)). The system approach in supply chain management suggests the recognition of interdependencies of major functional areas the within, across, and between firms. Therefore, supply-chain participants should share goals, objectives and strategies of the system-supply chain. Key attributes associated with supply-chain management are 'customer power, long-term orientation, leveraging technology, enhanced communication across organizations, inventory control, interactivity, interfunctional and interorganizational coordination' (Murphy Jr. and Wood, 2004).

The 'synergy', which is one of the critical aims of the effective supply chain management, was also derived form this approach. Essentially, total outcome that is achieved by the collective effort of different parts of a system will be greater than the sum of the efforts of the individual parts. This notion is the core of the supply chain management concept.

The management and structures of supply chains have changed since 1990's. Both practitioners and academicians are interested in supply

chain management notion and cooperation in network relations as well as the assessment of common supply chain practices. In 1990's, managers started to adopt the supply chain perspective and to identify their business environment according to the supply chain in which they were performing. Also companies started to focus on the best supply chain practices to build ideal supply chains. Cost competitiveness and inventory management were recognized as the basic aims of supply chain management (McMullan, 1996; Kemppainen and Vepsalainen, 2003). In these years, supply chains were identified as just the chains of companies. In time, the structure of supply chain management changed as multi-tier and collaboration based network (Kemppainen and Vepalainen, 2003).

As mentioned before, supply chain management is still relatively new concept and the boundaries of the approach are still evolving. It is an extensive concept and a field of study that is an overlapping area of many academic disciplines. Accordingly, supply chain management can be defined and examined from many different perspectives including purchasing and supply, logistics and transportation, marketing and strategic management (Croom *et al.,* 2000).

Today, the definition of supply chain is clearer among the academics and practitioners than the definition of 'supply chain management' (Cooper and Ellram, 1993; La Londe and Masters 1994; Lambert *et al.*

1998(a); Mentzer *et al.,* 2001). Forrester's (1961) work about 'industrial dynamics' is one of the first supply chain management related study. The concept was developed by focusing on physical distribution and transport area through the techniques of such industrial dynamics (Croom *et al.,* 2000). Also, the adaptation of 'total cost concept' to physical distribution and transportation area (Heckert and Miner, 1940; Lewis *et al.,* 1956) and 'least total cost of logistics' affected the evolution of supply chain management concept. All these approaches confirm that, focusing on just one or two parts of the system is not enough to assure the effectiveness of the chain (Croom *et al.,* 2000).

Beside supply chain management, the similar terms such as supply management, value-stream management, integrated purchasing, supplier integration, buyer-supplier partnership, supply base management, network supply chain, supply base management, value added chain, network supply chain, and value chain management have become interesting topics for the academics and management in recent years (Christopher, 1992; Lee and Billington, 1992; Nishiguchi,1994; Saunders, 1995; Lamming 1996; Nassimbeni, 1998). Due to such interest to variety of similar terms there still exists a considerable confusion about the definition of supply chain management. Therefore, supply chain management is a relatively new concept and it is still evolving.

A number of supply chain management definitions are shown in Table 2.

Table 2: Definitions of Supply Chain Management

Author(s)	***Year***	***Definition of "supply chain"***
Jones and Riley	1985	" … an integrative approach to dealing with the planning and control of the materials flow from suppliers to end users"
Christopher	1992	"… the management of upstream and downstream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole"
Cooper and Ellram	1993	"… is an integrative philosophy to manage the total flow of distribution channel from supplier to ultimate user"
Institute of Logistics (cited in Waters, 2003)	1998	"…a sequence of events intended to satisfy a customer. It can include procurement, manufacture, distribution and waste disposal, together with associated transport, storage and information technology"
Lambert *et al.(b)*, (in the conjunction with the Global Supply Chain Forum)	1998	"…the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stake holders"
Handfield and Nichols	1999	"…the integration of supply chain activities through improved supply chain relationships, to achieve a sustainable competitive advantage"
Mentzer *et al.*	2001	"…the systematic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses in the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole"

Table 2 (Continued)

Author(s)	***Year***	***Definition of "supply chain"***
Simchi-Levi *et al.*	2003	"…is set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses, and stores, so that merchandise is produced and distributed at the right quantities, to the right locations, at the right time, in order to minimize systemwide costs while satisfying service level requirements"
Council of Supply Chain Management Professionals	2006 (updated from the definition in 2004)	"…encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies. Supply Chain Management is an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high-performing business model. It includes all of the logistics management activities noted above, as well as manufacturing operations, and it drives coordination of processes and activities with and across marketing, sales, product design, finance and information technology"

It should be noted that supply chain management concept is examined only in a few industries and especially in different divisions of manufacturing industries. In this context, Burgess and Singh (2006)

stated as: “Apart from a lack of consensus on the theoretical and historical determinants of SCM, there is also considerable bias toward extrapolating principles from consumer markets (most notably automotive and compute industries) to other types of supply chains.”

There are a few studies about the supply chain management in the service industry in the literature. Although there is a concentration on supply chain management in service industry, services supply chain and services supply chain management concepts have not been studied yet. The following section examines the concept of services supply chain management.

1.1.3. SERVICES SUPPLY CHAIN MANAGEMENT

There are some obstacles for the development of services supply chain management concept due to the traditional focus on the manufacturing sector. However, it is inevitable to emphasize the new practices and methods for services supply chain management. One of the aims of this thesis is to address the literature gap in services supply chain management field. With the intention of providing a clear understanding of services supply chain management concept, following notions should be defined clearly: the nature of service and service business.

1.1.3.1. The Service Concept

To examine the nature of service, some examples of the current definitions of 'service' in the literature are presented as follows:

> *A service is an activity or series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems(Grönroos, 1990).*

> *Services are deeds, processes, and performances(Zeithaml et al., 1996).*

> *A service is an economic activity that creates value and provides benefits for customers at specific times and places by bringing about a desired change in, or on behalf of, the recipient of the service (Lovelock and Wirtz, 2004).*

As implied by the definitions, the best way to explain the service concept is to focus on the differences between the concepts of 'goods' and 'services'. The term 'goods' refers to "...the benefits come from ownership of physical objects or devices, whereas the term 'services' refers to "...the benefits created by actions or performances" (Lovelock

and Wirtz, 2004). It should be noted that, the 'product' of a firm may be a pure service, a good or a combination of these two.

At this point, it will be worthwhile to highlight the distinguishing attributes of goods and services. Basically, a good is a tangible physical product. It can be created, transferred from the point of origin to the point of consumption and also can be stocked and used later. On the other hand, a service is intangible. It is perishable and should be produced simultaneously (Sasser *et al.,* 1978; Lovelock and Wirtz, 2004; Zeithaml *et al.,* 2006; Bruhn and Georgi, 2006).

Lovelock and Wirtz (2004) identified the major differences between goods and services as follows:

> *Customers do not obtain ownership of services, services products are ephemeral and cannot be inventoried, intangible elements dominate value creation, customers may be involved in the production process, other people may form part of the product, there is greater variability in operational inputs and outputs, many services are difficult for customers to evaluate, the time factor assumes great importance and distribution channels take different forms.*

These differences are the main reasons of the need for a new conceptualization of services supply chain. Therefore, above-mentioned differences will be investigated in detail in the services supply chain section of the thesis.

Although the basic differences are as mentioned above, it is not easy to draw a clear border between a good and a service, since, when a good is purchased, it includes some services such as after sales services and guarantees. Similarly, when a service is purchased, it is accompanied by some goods such as the food at the restaurant, or the bed in a hotel. Therefore each purchase includes a bundle of goods and services, which also may be named as a 'service package' (Fitzsimmons and Fitzsimmons 2006). This bundle is illustrated in Table 3.

Table 3: Service/Product Bundle

Element	Core Goods Example	Core Service Example
Business	Custom clothier	Business hotel
Core	Business suits	Room for the night
Peripheral goods	Garment bag	Bathrobe
Peripheral service	Deferred payment plans	In-house restaurant
Variant	Coffee lounge	Airport shuttle

Source: Fitzsimmons and Fitzsimmons, 2006

The distinctive characteristics of services will also be mentioned in detail during discussions on services supply chain management.

However, it should be noted here that all of these characteristics increase the complexity of purchasing services versus purchasing goods. Table 4 depicts a number of distinctive characteristics in buying goods versus buying services.

Table 4: Purchasing Goods versus Services

	Goods	Services
Expectations	Have clear and precise specifications	Usually consist of unclear service legal agreements
Quality	Quality is measurable and pre-specified	Quality is dependent upon the user and subjectively determined
Predictability of Demand	Depends upon the forecast and the needs of the end customer	Varies with the scope of the project
Cost	Cost is pre-negotiated by individual unit	Cost fluctuates depending upon the changing scope and requirements
Verification of Completion	Products are physically present and can be verified upon receipt	Requires an internal sign off completion, unable to verify services performed
Payment	Verifiable with a three way match: invoice, receiving document, and purchase order	There is little tangible evidence and often pay as you go

Source: Allen and Chandrashekar (2000)

The services are characterized by an encounter between a service provider and a customer. The relationship between three parties in a service encounter including 'service organization', 'contact personnel'

and ‘customer’ determines the performance of service operation. In industrial markets, the service encounter takes place in a different manner than it does in the consumer markets. While the customer is in connection with the sales person in the consumer markets, service purchasing takes place between purchasing department and sales department during an industrial service exchange. However, in both markets, customers experience many encounters with a variety of service providers. Therefore, the service providers have an opportunity to influence the customer’s perceptions of service quality in each interaction with the customer. There may be some difficulties with interactions between the customer and the service provider. Such difficulties may arise due to the facts that: ‘unrealistic customer expectations’ and ‘unexpected service failure’ (Fitzsimmons and Fitzsimmons, 2006).

Therefore, it should be noted that the service quality, both in consumer and industrial markets is critical and is main determinant of value creation during service processes. Accordingly, it is significant along services supply chains. Before focusing on this relationship, the following section presents a review of the service business.

1.1.3.2. The Service Business

In recent years, the service industry has grown tremendously. The size, diversity and complexity of the industry have significantly increased due

to the advances in technology, increasing global trade and increasing focus in specialization. Innovation and social trends, such as the changing average age of the population, the growth of two-income families and the increase in the number of single people have created demand for new and various services (Lovelock and Wirtz, 2004; Fitzsimmons and Fitzsimmons, 2006; Zeithaml *et al.,* 2006; Bruhn and Georgi, 2006). As new services are needed due to the economic growth, service companies are offering new services every single day. Accordingly, these new service divisions have largely contributed to the extension of the service industry. Therefore, the number of the companies and individuals who prefer to buy services from the service businesses is still considerably increasing.

As economy develops, the relative share of employment in services industries change dramatically as well. The output of the service industry is growing rapidly and stands for at least half of the GDP not only in the developed economies but also in emerging economies. Indeed, the modern economy is being dominated by the services. Changes in service industry directly affect the way we live and work. Beside the services that satisfy the consumer's existing needs, there appear new service areas which meet needs that are not even known by the people. Also, the number and the size of service organizations are increasing noticeably. The services sector includes a wide array of companies that operate in consumer and industrial markets (Lovelock

and Wirtz, 2004). Accordingly, the competition level in the service industries is also increasing.

More academicians emphasized on service industry in early 80's due to the increasing importance of the concept. The scholarly work mostly gave a focus to the differences between service and manufacturing businesses. Accordingly, services marketing and management of services were become the hot topics in the literature. The main reason of this increasing interest was based on the difference of the service product compared to manufacturing goods. However, it should be noted that beside the distinctive features of services such as perishability, intangibility, simultaneity and heterogeneity (Zeithaml, *et al.*, 1998), there are some other areas where the existing literature and models should be analyzed for, revised and implemented to service business. Supply chain management, and accordingly supply chain orientation, are two of these areas. However, research on how supply chain management can be implemented in services industries, at best, scarce.

Furthermore, though service quality has been studied extensively in consumer markets context, there are relatively few studies on industrial service quality. For these reasons, the service quality concept in industrial markets and services supply chain orientation, which is a subtopic of services supply chain management, is in the scope of this

thesis. Also, their association with each other is investigated in this study.

1.1.3.3. The Evolution of Services Supply Chain Management

Following the examination of service concept and supply chain management notion, this section presents the literature review on services supply chain management. As mentioned above, organizations strive to deliver their products and services efficiently and effectively in the global markets. The management of supply chain is a critical component of this effort. In recent years, services, as the driving force of the economies, have become increasingly important. Also, it is obvious that the service industry has a great potential for the coming years. To date, as a general rule, manufacturing practices have been applied to the service area. Furthermore, it is clear that the importance of service concept is increasing for the manufacturing companies as well as the service organizations. Recent empirical studies have revealed that manufacturing companies can achieve competitive advantage through manufacturing performance by the expanded service roles (Voss, 1992; Youngdal and Loomba, 2000). In this context the management of the service flow along the supply chain is one of the most significant components of both manufacturing supply chains and services supply chains. However, there are many potential drawbacks of service flow management or service distribution in the supply chain. Service flow along the supply chain can be difficult to manage, since the service

uniformity creation and maintenance are challenging. Also, the raw materials of the services, which are often dominated by time, can be difficult to measure (Shostack, 2001). Such difficulties lead to a conflict about making decisions on "what is marketed, what is managed, what is being flowed". It can still be a simple product or service and it is often more complex combination of product and service. In view of fact that there is a gray area between service and manufacturing field which means a mixed industry (Cook *et al.,* 2001; Shostack, 2001). The effective supply chain is needed for manufacturing and service industries as well as the industries of such mixture.

To increase the effectiveness of materials, services and information flows along the manufacturing supply chains, the companies mainly focus on the manufacturing performance in order to increase their competitiveness through quality, flexibility and delivery (Youngdal and Loomba, 2000). Since, manufacturing of goods is viewed as the main activity of most companies, the management focused on the supply chains for manufactured goods. The source of efficiencies in service ssupply chains is directly related to the issues such as management of capacity, flexibility of resources, information flows, and service performance that creates a need of an approach rather than the manufacturing supply chains. Though there exist many differences between manufacturing and services supply chains, there are some

similar processes such as demand management, customer relationship management and supplier relationship management.

Since service businesses are still becoming more complex and branched out organizations, the service management turns out to be more challenging for the service firms. Accordingly, as stated before, the value of effective supply chain management is becoming more intense not only for the manufacturing companies but also for the service companies. Therefore, supply chain management becomes a critical competitive tool for the service companies; the managers of these companies seek for the ways to better implement the supply chain management practices. Also, those managers have realized the significance of the practices to be a critical member of a supply chain, to be integrated with the other firms such as intermediaries, suppliers, and industrial customers, to involve in close supply chain relationships, to gain the advantages of effective coordination, cooperation and synergy along the supply chain. Thus, like in the manufacturing industry, effective supply chain management is a key requirement in the service industry. However, there is limited scholarly work about services supply chain, since the field of services supply chain is unexplored. The main problem beyond the development of services supply chain is the traditional focus on the manufacturing sector. Widely used models, analysis and practices are mostly manufacturing business oriented. As Nie and Kellogg (1999) suggested, such an orientation impedes the

development of services supply chain literature. The main reason of manufacturing orientation is that the service operations' complexity. However, this complexity indeed highlights the importance of the linkage between the concepts of service business and supply chain. Hence, if more complex structures or concepts may be examined and understood in detail, transferring the knowledge to less complex concepts, as manufacturing oriented supply chains, will be more logical and easier.

Although the service businesses may benefit from manufacturing oriented applications there is a need for concentration into service supply chains due to the differences between services and goods. In this context, it is important to recognize whether the methods of manufacturing sector can be directly applied to services supply chains. Though supply chain management is a well-known concept in manufacturing, the concept and the potential benefits that will occur after the successful implementation of services supply chain management have recently been familiar for the businesses.

It may be thought that service businesses may benefit from the best practices of manufacturing oriented applications. However, the distinctive nature of service businesses creates a need for services supply chain management tools that are specific to the service sector. Also, due to the lack of a central system to produce and manage

services, formalized approaches for managing services do not exist. Accordingly, the topic of 'service' is often a single part or chapter in popular textbooks in operations management, purchasing and supply management and supply chain management (Ellram *et al.,* 2004).

In addition, transferring marketing concepts and practices that have been developed in manufacturing companies to the service organizations is often not correct. This is due to the fact that marketing management practices in the service sector differ from those in the manufacturing sector (Lovelock and Wirtz, 2004). Similarly, the supply chain management practices for the manufacturing industry tend to differ from those in the service industry.

Although research in services supply chain is scarce, the number of the studies related to services supply chain has increased in the recent years. As an example of early studies in the area, Armistead and Clark (1993) integrated the concepts of service industry and supply chain by suggesting Porter's value chain as a strategic tool for service businesses. In their study, they identified the service processes regarding to the variables of people, facilities, information systems, materials, equipment, configuration, cost and revenue.

Hellman (1995) investigated the cooperative relationships in insurance companies. He emphasized that cooperative relationships such as the

alliances are more critical for service companies compared to the manufacturing firms. In this context, he emphasized that the cooperative relationships along the supply chain are vitally important in service industry.

The service factory concept was extended to global supply chains by Youngdahl and Loomba (2000). Their contribution for future research about conceptualisation of the service operations in global supply chain management is also critical.

Sampson (2000) made a remarkable contribution with a focus in consumer-supplier duality along the services supply chain. Sampson (2000) has strengthened the contributions of Hellman (1995) on the cooperative relationship between different entities of a services supply chain.

Cook *et al.* (2001) explored the concept of services supply chain management with a focus on healthcare industry. They emphasized that the supply chain management concept is not yet recognized well by service sector practitioners. They suggested that the main reason of such a situation is the lack of a systematic integration of supply chain functions in the service business.

Kathawala and Abdou (2003) aimed to adapt the manufacturing oriented supply chain operations and framework into the service oriented ones. To this end, they emphasized on the concepts of total cost of logistics and trade-off analysis between cost of logistics activities and the cost of increasing the quality of the service along the supply chain.

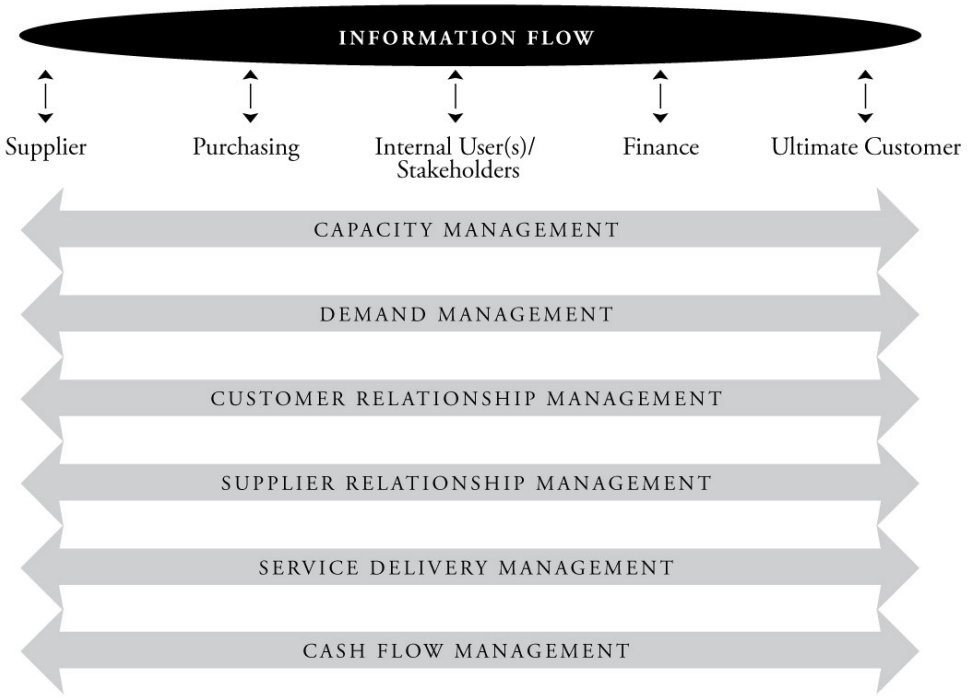
The study of Ellram *et al.* (2004) provided the most significant contribution to service supply chain literature. The study proposed a framework for services supply chain, which highlights the key service processes along the supply chain. The general framework was adapted from manufacturing-oriented supply chain management literature. The authors identified the key service processes/functions as information flow, capacity and skills management, demand management, supplier relationship management, customer relationship management, service delivery management and cash flow (Figure 2). As seen in Figure 2, information flow emerges as a suprastructural construct.

'The process approach' has been dominant in existing supply chain models. It is critical for services supply chain management since it focuses on the effective management of processes that are the core of services supply chains.

Finally; Baltacioglu *et al.* (2007) proposed a comprehensive framework for services supply chain management and a new model titled as

IEU_SSC Model. The model highlights the unique characteristics of services and service processes. The authors filled the gap of literature by fulfilling the need for service supply chain model. (Figure 3)

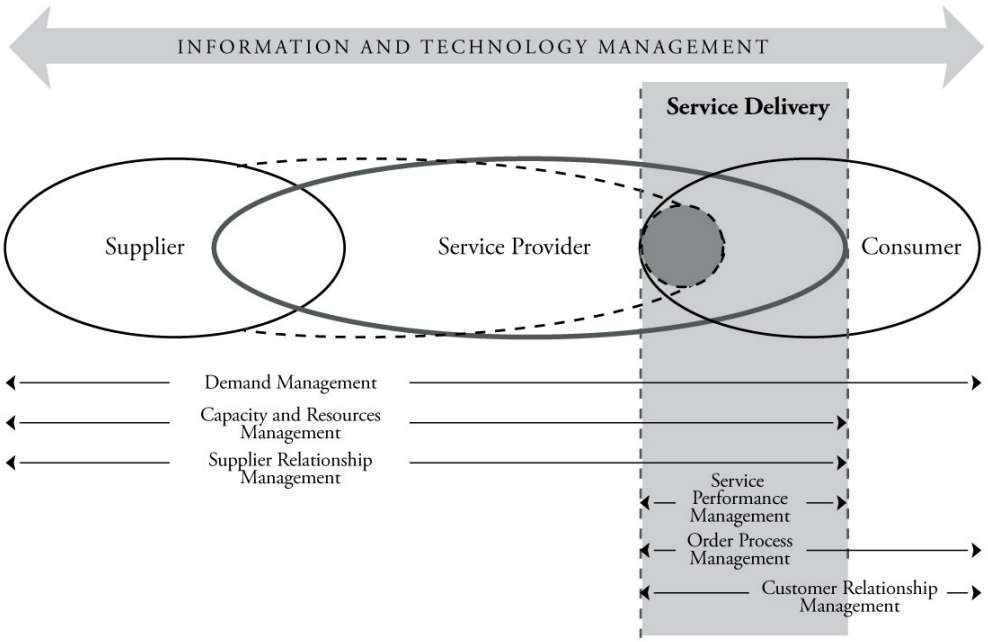
Figure 2: Services Supply Chain Model of Ellram *et al.* (2004)



Source: Ellram et al., 2004

As above-mentioned, supply chain management concept may be adapted to the service business, in view of the structural differences between goods and services. Main structural differences in services supply chain based on the distinguishing characteristics of services are as follows.

Figure 3: IEU_SSC Model



Source: Baltacioglu *et al.,* 2007

1.1.3.4. Structural Differences in Services Supply Chain

Services supply chain is entirely different form the manufacturing-oriented supply chain due to the distinctive characteristics of services. These differences are vital in supply chain context since they wholly affect the service operations and service processes. Therefore, it is recognized that the management of service operations should be conducted in a different way the management of production processes

(Nie and Kellogg, 1999). Accordingly, these distinguishing characteristics change the nature of a services supply chain.

The main distinctive characteristic of services is **intangibility** (Parasuraman *et al.,* 1985). Services cannot be owned by the consumers due to the fact of intangibility. As a result of intangibility; consumers cannot assess, see, touch, smell or taste the service. Thus, it is not always possible to test the performance of a service before purchase. Fitzsimmons and Fitzsimmons (2006) explain the intangibility characteristics of services by stating that: "….Services are ideas and concepts; products are things". Intangibility makes it impossible to apply all logistics activities to traditional supply chain structure.

Simultaneity is another differentiating feature of a service that refers to the situation as production and consumption of a service takes place concurrently. Due to this fact, it is not possible to produce and store a service before the consumption occurs. Therefore, it is difficult to manage the service operations and to inventory services (Fitzsimmons and Fitzsimmons 2006).

On the other hand, service production occurs only when the service provider and the service customer are both present in the service environment. Thus, it is not possible to standardize or customize the services. In view of that, both service employees and service production

units perform as a single service factory during delivery of services (Baltacioglu *et al.,* 2007).

Heterogeneity is another distinctive property of the services. As stated before, services cannot be customized and standardized beforehand. Thus, the outputs of different service productions will be heterogeneous and the service will vary from customer to customer (Fitzsimmons and Fitzsimmons, 2006). The factors that are caused by the customer's perceptions or the surroundings of service production result in different customer experiences on the same services. Therefore, employees become vitally important for the service business. As J. Willard Marriot, founders of the Marriott Hotel Chain said: "In the service business, you can not make happy guests with unhappy employees" (cited in Fitzsimmons and Fitzsimmons, 2006). This characteristic of the services increases the complexity in planning and analysis of the service operations as well as in the measurement of the output. At this point, it should be noted that, if the service operations and service flow in industrial markets are not managed in an effective way, it will not be possible to deliver services to the end users properly. Therefore, the satisfaction of the end user who utilizes the service is directly related to effectiveness of service delivery process that takes place between businesses. In this context, supply chain management becomes significant in service businesses. Accordingly, to increase the service quality perceived by the end user will be possible if the industrial

service quality perceived by the businesses in services supply chain can be increased.

Another fact that distinguishes services from goods is **perishability.** It is impossible to stock the service with the aim to offer afterwards. If a ready to use service is not consumed, it will be lost forever (Baltacioglu et al., 2007). Perishability property makes services impossible to be stored in a warehouse. In this context, Kathawala and Abdou (2003) stated that: "…A major difference of the service made is that the product is intangible; you cannot put it as inventory, because the product sold is the number of hours of the professionals and employees involved in the assignments. In addition it is a hybrid that includes both functional services and innovative services". In this context, it is impossible to adapt warehousing function to services supply chains. Also, the applicability of demand management, capacity utilization, production planning and personnel scheduling functions in services supply chain are not so easy (Nie and Kellogg, 1999).

Lastly, the **human aspect** in service industries is critical. Fitzsimmons and Fitzsimmons (2006) emphasize the importance of human aspect in service business as follows "…An important consideration in providing a service is the realization that the customer can play an active part in the process". It should be noted that the customers of the service businesses may be thought as the co-producers. This is due to the fact that the

service industries are labour intensive and the effect of customers is present in all service operations. Also, the knowledge, experience and motivation of the customers have a direct effect on the performance of the service operations. Accordingly, another difference between traditional manufacturing oriented supply chains and services supply chains is based on the intensity of human aspect. In services supply chains, human resources should be accepted as a core function rather than a supporting one (Baltacioglu *et al.*,2007).

1.1.3.5. Definitions of Services Supply Chain and Services Supply Chain Management

There are still a few definitions of services supply chain and services supply chain management in the literature. The concepts of supply chain and supply chain management are not mature in general and especially in the service industry (Kathawala and Abdou, 2003).

Ellram *et al.* (2004) proposed the only relevant definition of service supply chain management as "the management of information, processes, capacity, service performance and funds from the earliest supplier to the ultimate customer". Also, Kathawala and Abdou (2003) defined services supply chain management as: "The supply chain management for the services industry is the ability of the company/firm

to get closer to the customer by improving its supply chain. The services supply chain will include responsiveness, efficiency, and controlling."

Similarly, more recently, the definition of services supply chain management is suggested by Baltacioglu *et al. (*2007) as:

> *The network of suppliers, service providers, consumers and other supporting units that performs the functions of transaction of resources required to produce services; transformation of these resources into supporting and core services; and the delivery of these services to customers.*

The authors also suggested a definition of services supply chain management. The definition is based on the one that was proposed during Global Supply Chain Forum in 1998. The definitions of services supply chain management proposed by Baltacioglu *et al.,* 2007 is: "…the management of information, processes, resources and service performances from the earliest supplier to the ultimate customer".

The main idea of services supply chain and services supply chain management is that the final product delivered to the customer is the 'core service' that provides benefit to the customer. Any asset may be exchanged between businesses along the supply chain such as material

assets, financial assets, human resources assets, technological assets, information and knowledge (Croom *et al.,* 2000). In service industry, the main exchange factor between businesses is the service itself. In this context, the core flow along the services supply chain is the service flow.

While delivering a core service, various supporting services may be required. For instance; having a vacation in a hotel, having an entertainment in a theatre, treatment of an illness in a hospital are the core services for the customers. However, to provide the core services to the customers, a number of supporting services are needed by the service providers. For instance, 'transportation of required materials or catering services that are required to support to fulfil the core services' is an example of supporting services.

Both the core and supporting services have vital roles along the services supply chain. While the focal flow is materials flow in a manufacturing-oriented supply chain, the service and information flows have less important roles along the chain. Conversely, in a services supply chain context, the core flow is the service flow, whereas the materials and information flows have minor importance.

The services flow in a services supply chain includes both the core service and supporting services. The combination of core and supporting services are perceived as the expected service by the

customer. In some cases, supporting services are produced by suppliers while in other cases they are produced by the service provider itself (Baltacioglu *et al.,* 2007).

Also, it should be noted that a successful delivery of a service requires an effective flow or existence of 'tangible objects' such as materials, finished goods, machines and equipments. Tangible objects, which contribute to successful service performances, are referred to as 'resources' which make it possible to produce a service in the model of Baltacioglu *et al.* (2007). In this model, other resources which support the service delivery performance are labour force, funds and other services outsourced from other firms.

Service processes along the services supply chains include all types of operations that are needed to transform the resources into core and supporting services. All entities in the supply chain as well as the sub-units under those entities are responsible for efficient implementation and realization of these processes. Also, the information flow along the supply chain should be managed in synchronization with the services and materials flow.

There are a number of activities which are critical in terms of services supply chain context. These activities are: "demand management, capacity and resources management, customer relationship

management, supplier relationship management, order process management, service performance management and information and technology management". As illustrated in IEU_SSC model of Baltacioglu *et. al,* (2007) , some of these activities goes along all phases of the chain, while others performed in limited parts of the chain.

Following the literature of services supply chain management, the supply chain orientation in services context is explained in the next section.

1.2. SERVICES SUPPLY CHAIN ORIENTATION

Supply chain orientation concept is one of the main sub-topics of this study. Also it is a major variable of the proposed research model. In this study, the notion of supply chain orientation is presented based on the conceptualizations and definitions in the study of Mentzer *et al.* (2001).

1.2.1. SUPPLY CHAIN MANAGEMENT VERSUS SUPPLY CHAIN ORIENTATION

As 'supply chain' consists of interdependent companies aiming the success of whole supply chain, the 'supply chain orientation' becomes a vital need for each member of the chain. The need for supply chain orientation is based on the dyadic exchange relationships between entities.

Today, supply chain management is being used to describe different concepts including supply chain orientation. Although these two terms are in use interchangeably, there are significant differences between these two concepts. Menzter *et al.,* 2001 explained the supply chain management and supply chain orientation relationship by using a metaphor as follows:

> *A supply chain is like a river, with products and services flowing down it instead of water. Whether anyone recognizes the systematic, strategic implications of managing the water basin, the river still exists. Similarly, whether any company recognizes the systematic, strategic implications of the supply chain of which they are a part, it still exists. When one state*

through which the river flows recognizes the need for state above it in the water basin to conserve and preserve the water supply and recognizes its own need to do the same for states below it, the state has taken a systematic strategic orientation- the river equivalent of supply chain orientation. However, without the cooperation of the states above and below it, there is little it can do about implementing this orientation. It is only when a number of continuous states adopt such a similar orientation and actively manage the resources of the river that we can say the water basin is managed. Similarly, supply chain management can only result in managed supply chain when several companies directly linked in the supply chain have a SCO and actively manage to that orientation.

As mentioned in the previous sections, supply chain management is based on the system approach. Accordingly, the processes between all entities of a supply chain and their functions have a role of a subsystem. Supply chain management system aims to achieve coordination, synergy and synchronization between and within the elements of a supply chain (Ross, 1988). In this context Mentzer *et al.* (2001) stated that "…idea of viewing the coordination of a supply chain from an overall system perspective, with each of the tactical activities of distribution flows seen within a broader strategic context (what has been called SCM as a management philosophy) is more accurately called

a Supply Chain Orientation. The actual implementation of this orientation, across various companies in the supply chain, is more appropriately called Supply Chain Management". Therefore, if a company is implementing supply chain management, that company definitely has the supply chain orientation. In other words, if there exists a supply chain management that is being implemented across suppliers and customers of a company, it can be said without doubt that the focal company of that particular supply chain is supply chain oriented (Mentzer *et al.,* 2001; Min, 2001).

1.2.2. DEFINITION AND DETERMINANTS OF SUPPLY CHAIN ORIENTATION

Although its importance, the research on supply chain orientation is scarce. Supply chain orientation, which is an antecedent of supply chain management (Mentzer *et al.,* 2001; Min, 2001) is a concept that should be implemented and possessed by and across a number of companies that are connected each other along the supply chain. Therefore, supply chain orientation is primarily required in order to realize supply chain management. Put another way, supply chain management is a concept that includes all management actions to realize a supply chain orientation.

Mentzer, *et al.* (2001) defined supply chain orientation as "... the recognition by an organization of the systemic, strategic implications of

the tactical activities involved in managing the various flows in a supply chain". It can be suggested that a company has a supply chain orientation "...if the management can see the implications of managing the upstream and downstream flows of products, services, finances, and information across their suppliers and their customers". Conversely, a company does not posses a supply chain orientation if an organization focuses only on the systemic, strategic implications in one direction.

Following the study of Min (2001) proposed that supply chain orientation within a firm has the following characteristics:

1. *A systems approach to viewing the channel as a whole, and to managing the total flow of goods inventory from the supplier to the ultimate customer,*
2. *Cooperative efforts to synchronize and converge intrafirm and interfirm operational and strategic capabilities into a unified whole and,*
3. *Customers focus to create unique and individualized sources of customer value.*

Based on the findings Mentzer's *et al.* (2001) study, Min (2001) defined the dimensions of the supply chain orientation as: "trust, commitment, cooperative norms, dependence, organizational compatibility and top management support". These dimensions found an acceptance in the literature as the antecedents of supply chain orientation. If a firm is

supply chain oriented, the stated behavioral elements should be built and sustained toward the relations with its supply chain partners. (Min 2001; Mentzer 2001; Fugate *et al.,* 2006) Those are the factors that affect the implementation of a supply chain orientation philosophy. Determinants of supply chain orientation may be explained as follows:

Trust and **commitment,** two significant dimensions of supply chain orientation, have been studied widely in relationship marketing and social exchange literature. In the literature, the association between trust and commitment has extensively emphasized (e.g. Achrol, 1991; Moorman *et al.,*1992; Morgan and Hunt, 1994). These two terms were proposed as the antecedents of cooperation among the businesses by Morgan and Hunt (1994). Also, they suggest that commitment and trust as 'key' factors in relationship marketing to promote efficiency, productivity and effectiveness. Moreover, these terms have a central role especially in terms of building long-term relationships. Although marketing research on trust focuses on two aspects as trust on suppliers firm and trust on salespeople, only the inter-organizational trust is taken into account in this thesis.

Moorman *et al.* (1992) define **trust** as "… a willingness to rely on an exchange partner in whom one has confidence". The advantages of involving in a trustworthy relationship were presented in detail in the literature. For instance, existence of trust between entities is a potential

solution of the problems regarding different aspects such as power and conflict (Dwyer et al., 1987). If a firm is accepted trustworthy for the focal firm, it is believed that the trustworthy party will perform accordingly, resulting in positive outcomes for both parties. Also, it is expected that trustworthy party will not take unexpected actions that may result in negative outcomes for both parties (Anderson and Narus, 1990). Therefore, trust leads to coordination between trustworthy partners. Zhao and Cavusgil (2006) emphasized the concept as "… a trustworthy partner should be reliable and have integrity" . Morgan and Hunt (1994) stated that " …to be an effective competitor (in the global economy) requires one to be a trusted cooperator (in some network)". Also, existence of trust between parties in a distribution channel provides an association with the cooperation between the parties (Morgan and Hunt,1994). In addition, the tendency to stay in the channel relationship is enhanced by the presence of trust between the parties (Anderson and Weitz 1989; Morgan and Hunt; 1994).

The second dimension of supply chain orientation is **commitment.** The concept was defined by Dwyer *et al.* (1987) as "an implicit or explicit pledge of relational continuity between exchange partners". They also mentioned the fact that; although the synonyms of commitment are vague, "solidarity" and "cohesion" may be used as interchangeably with the term commitment. Another definition from Anderson and Weitz (1992) is "… a desire to develop a stable

relationship, a willingness to make short-term sacrifices to maintain the relationship, and a confidence in the stability of the relationship" (Anderson and Weitz, 1992). The studies showed that developing and maintaining commitment is required to achieve a long term relationship between the supply chain members (Gundlach *et al.,* 1995). The commitment to a firm along the supply chain is a fact that provides a supply chain orientation inside the firm (Min, 2001).

The third dimension, **cooperative norms,** was defined by Siguaw *et al.* (1998) as "…the perception of the joint effort of both supplier and distributor to achieve mutual and individual goals successfully (Stern and Reve 1980; Cannon and Perreault 1997) while refraining from opportunistic actions". Cooperative norms suggest the expectations of both parties in an exchange relationship about performing jointly to achieve their goals mutually (Cannon and Perreault Jr., 1999). It should be noted that, presence of cooperative norms reflect that both parties behave in a manner that suggests they are aware of having to work together to be successful. Also, Heide and John (1992) emphasized the relational exchange norms that are related to the cooperative norms. Relational exchange norms are categorized as "flexibility norms, information exchange norms and solidarity norms by the authors. When the items of the scales investigated, it can be seen that solidarity items are very similar to the cooperative norms of Cannon and Perrault (1999).

Dependence between the partners in a supply chain is one of the primary requirements for effective supply chain management. Even basic social relations are based on existence of mutual dependence between the parties. Dependence exists if one party "…aspires to goals or gratifications whose achievement is facilitated by appropriate actions of the [other] party" (Emerson, 1962). In this context, it is safe to say that, the dependence between two parties leads to a position that allows affecting the others success or satisfaction. Shared aims and information, joint operations and potential synergy are linked to the dependence between partners along the supply chain (Bowersox and Closs, 1996). Dependence of one party to another in an exchange relationship refers to the focal company's motivation to maintain the relationship to increase gratification by achieving desired goals (Frazier, 1983).

Effective supply chain management creates cooperation, coordination and synergy among businesses along the supply chain. **Organizational compatibility** with the other partners of the supply chain is critical for the success of the organization and also to achieve the above-mentioned supply chain goals. Bucklin and Sengupta (1993) defined organizational compatibility as "…complementary in goals and objectives, as well as similarity in operating philosophies and corporate cultures". The organizational compatibility between two firms will

increase the value of the relationship. Also, Cooper *et al.* (1997) (b) pointed out the significance of corporate culture and its compatibility across supply chain members.

It is suggested that the **top management support,** which is another dimension of supply chain orientation, and manner of conduct directly affect the organization's success and direction (e.g., Felton 1959; Hambrick and Mason 1984; Kotter 1990; Tosti and Jackson 1994). The significant role of top management in supply chain relations and supply chain management has been deeply emphasized (e.g. Monczka *et al.,* 1993; Ward *et al.,* 1994; Karuse, 1999; Chen and Paulraj 2004). Jaoworksi and Kohli (1993) investigated the association between top management manner and market orientation. They emphasized on the effect of top management on market orientation in two groups which are 'top management emphasis' and 'top management risk aversion'. 'Top management emphasis' reflect to the 'top management support' in this study. It is also proposed in the literature that the top management has a significant role in determining the organization's values, policies and orientation (e.g., Felton, 1959, Hambrick and Mason 1984, Jaoworksi and Kohli 1993). Moreover, it is emphasized in the literature that, especially for being a market oriented organization top management support is a vital factor.

As the top managers possess the critical knowledge about needs of their firm to have competitive position, they are also aware of the needs for supply chain management and supply chain orientation. Top managers of a company affect the determination of organizational values and implement management strategies to improve firm's performance (Chen and Paulraj, 2004). In this context, Pfeffer (1977) stated that leaders-top managers- may directly affect the organizational outcomes. Accordingly, presence of top management support has a direct impact on the organizational performance (Day and Lord, 1988).

This section presented the definition and determinants of supply chain orientation. The concept has not been adapted to service context before. This literature gap is aimed to fill in this study, starting with the following section.

1.2.3. SUPPLY CHAIN ORIENTATION IN SERVICE CONTEXT

As mentioned above, for an effective supply chain management, supply chain orientation is a must. Therefore, supply chain orientation is an inevitable philosophy that should be adapted to the service business.

Based on the services supply chain definition proposed by Baltacioglu *et al.* (2007), and the supply chain orientation definition suggested by

Mentzer *et al.* (2001) services supply chain orientation may be defined as :

> *The recognition by the service organization on the systemic, strategic implications of the tactical activities involved in managing the various flows in a network of suppliers, service providers, consumers and other supporting units that performs the functions of transaction of resources required to produce services; transformation of these resources into supporting and core services; and the delivery of these services to customers.*

In this study, services supply chain orientation is one of the main variables of the model. The dimensions of supply chain orientation proposed by Min (2001) are pertained as the dimensions of the services supply chain orientation as well.

CHAPTER 2

SERVICE QUALITY IN INDUSTRIAL MARKETS

Although service quality is a concept, which has been studied in detail in the literature, there is little work on service quality in industrial context. As mentioned in the previous sections, industrial service quality is one of the major variables of this study. In this chapter, firstly, the concept of service quality is presented. Then, the industrial service quality will be examined. Finally, the importance of industrial service quality in supply chain management context is explained.

2.1. SERVICE QUALITY

The famous statement "what can not be measured can not be managed" refers to the idea that the measurement is a primary requirement for management. If the statement adapted to the service quality concept, it could be said that "the service quality should be measured with the purpose of managing the service properly". Therefore, the concept of

service quality has gained a great attention by academicians and practitioners (Cronin and Taylor, 1992; Hallowell, 1996; Gummesson, 1998; Lasser *et al.,* 2000; Newman 2001; Gurau 2003)

The relationship between perceived service quality and firm's performance is investigated by many researchers. In some cases, two terms may be used interchangeably. However, customer satisfaction in industrial context is more complex since there is more than one person to be contacted (Oliver 1997, Parasuraman *et al.,* 1998).

There exist many definitions of quality in the literature. Garvin (1988) identified five principle approaches to defining quality as transcendent, product-based, user-based, manufacturing-based and value-based. One of the value-based definitions, which is also cited in Garvin (1988), is as follows: "…the degree of excellence at an acceptable price and the control of variability at an acceptable cost (Broh, 1982)" For manufacturing companies, the main quality dimensions are 'performance, features, reliability, conformance, durability, serviceability, aesthetics and perceived quality' (Garvin, 1998). To define and measure the service quality, a unique approach is needed due to the distinctive nature of the services.

The main competitive weapon for a service firm is the continuous improvement in productivity and quality. Due to its importance for

service industry, service quality is a broadly studied topic. In the literature, service quality standards and measures were grouped into two main categories as soft and hard. It is suggested that, organizations should use both soft and hard measures in order to achieve customer satisfaction. Soft measures cannot be easily observed so must be collected by qualitative research techniques as talking to customers, employees, or others. They are critical for the employees since they offer a direction, guidance and feedback in order to increase the level of service (Lovelock and Wirtz, 2004; Zeithaml *et al.,* 2006). In this context; SERVQUAL, which will be explained in detail, is accepted as an example of soft measurement system.

On the other hand, "hard standards and measures" reflect the characteristics and activities that can be counted, timed or measured through audits. Some examples for these may be; "...how many telephone calls were abandoned while the customer was on hold, how may minutes customers had to wait in line at a particular stage in the service delivery, the time required to complete a specific task, the temperature of a particular food item, how many trains arrived late, how many bags were lost, how many patients made a complete recovery following a specific type of operation, and how many orders were filled correctly" (Lovelock and Wirtz, 2004).

As the customers are not always satisfied with the quality of the services they receive, service provider companies are forced to measure the quality of their service and make an effort to increase their service level. There is extensive research about service quality in the literature and the most significant contribution to the literature in service quality research was done by Zeithaml *et al.* (1985,1988, 1991).

Service performance is not easy to measure as product functionality (Ellram *et al.,* 2004). This is because the assessment of quality cannot be done before. Quality assessment is not a simple process, since it depends on the customer perceptions and evaluations of the service.

Customers' final impressions of service quality are based on the total service experience that is obtained from the service package (Fitzsimmons and Fitzsimmons 2006). To measure these impressions Parasuraman *et al.,* (1985,1988) developed a survey research instrument called SERVQUAL. The main aim of such a survey technique was to measure customer satisfaction with regard to different aspects of service quality. In this research the basic assumption is that the quality of the service can be measured by comparing customers' perceptions of the (actual) service (experience) with their own expectation. Accordingly, the issue of service quality has been studied by gap model and SERVQUAL scale (e.g. Parasuraman *et al.,* 1985,1988,1991(a,b),1994; Zeithaml et al., 1990). While developing

their SERVQUAL scale, Parasuraman *et al.* (1985, 1988) conducted interviews and surveys among the consumers of service divisions including retail consumers of appliance repair or maintenance, retail banking, long-distance telephone, securities brokerage, and credit card services (Bienstock *et al.,* 1997). Also, a number of researchers have used SERVQUAL on consumers of different service sectors such as healthcare, retail store, dry cleaning, financial and pest control (Carman 1990;Parasuraman *et al.* 1991(a,b), Finn and Lamb 1991; Babakus and Boller 1992; Babakus and Mangold 1992; Cronin and Taylor 1992; 1994 Bienstock et al., 1999).

Parasuraman *et al.* (1985,1988) identified 10 criteria to evaluate service quality. In their following research, they found a high degree of correlation among several of these variables and lessened them into five broad dimensions as tangibles, reliability, responsiveness, assurance, and empathy. These five dimensions of SERVQUAL scale (Parasuraman *et al.,* 1988, 1991(a)) :

1. *Tangibles: appearance of physical facilities, equipment, personnel, and communication materials.*
2. *Reliability: ability to perform the promised service both dependably and accurately.*
3. *Responsiveness: willingness to help customers and to provide prompt service.*

4. *Assurance: knowledge and courtesy of employees as well as their ability to convey trust and confidence.*
5. *Empathy: caring, individualized attention to customers.*

As mentioned above, there exist a number of service quality models in the literature. A detailed review of the service quality models was presented by Deshmukh and Vrat (2005) as shown in Table 5.

Table 5: Service Quality Models

Author(year)	Model
Parasuraman *et al.* (1985)	Gap Model
Brogowicz *et al.* (1990)	Synthesized Model of Service Quality
Cronin and Taylor (1992)	Performance Only Model
Teas (1993)	Normed Quality and Evaluated Performance Model
Sweeney *et al.* (1997)	Retail Service Quality and Perceived Value Model
Dabholkar *et al.* (2000)	Antecedent Mediator Model
Frost and Kumar (2000)	Internal Service Quality Model
Soteriou and Stavrinides (2000)	Internal Service Quality DEA Model
Zhu *et al.* (2002)	IT-based Model
Grönroos (1984)	Technical and Functional Quality Model
Haywood-Farmer (1988)	Attribute Service Quality Model
Mattsson (1992)	Ideal Value Model
Berkley and Gupta (1994)	IT Alignment Model

Table 5 (Continued)

Author(year)	Model
Dabholkar (1996)	Attribute and Overall Affect Model
Spreng and Mackoy (1996)	Perceived Quality and Satisfaction Model
Philip and Hazlett (1997)	PCP Attribute Model
Oh (1999)	Service Quality, Customer Value and Customer Satisfaction Model
Broderick and Vachirapornpuk (2002)	Internet Banking Model
Santos (2003)	E-service Quality Model

Source: Deshmukh and Vrat, 2005

2.2. THE NEED FOR AN INDUSTRIAL SERVICE QUALITY CONSTRUCT

Although service quality is examined in detail, as mentioned above, the research has been generally carried out by surveying or interviewing only the end-users (e.g.; Babakus and Boller 1992; Babakus and Inhofe 1993; Babakus and Mangold 1992; Brown *et al.,* 1993; Carman 1990; Cronin and Taylor 1992; Finn and Lamb 1991; Parasuraman *et al.,* 1985, 1988,1991(a,b); Lovelock and Wirtz, 2004). In majority of these studies, SERVQUAL scale, which was developed and modified by Parasuraman *et al.* (1988,1991(a)), has been used. However, there are a few studies in which SERVQUAL scale and gap model has been used in order to measure service-quality in industrial context (e.g. Brensinger and

Lambert 1990; Mehta and Durvasula 1998). The main reason is that, there is a great difficulty of generalizing the dimensions of SERVQUAL to an industrial service context. For instance, Brensinger and Lambert (1990) applied SERVQUAL to industrial purchases of motor carrier transportations service. However, the predictive validity of the scale was poor. Therefore, the application of SERVQUAL scale to industrial context is scarce. While the findings of some studies support the applicability of SERVQUAL scale to business-to-business contexts (e.g. *Pitt et al.,* 1996), there exist a number of studies in which the reliability and validity of the scale is relatively low (e.g. Durvasula *et al.,* 1999). Recently, SERVQUAL scale was adapted to business-to-business contexts by Gounaris (2005). The new scale was named as INDSERV. His study filled the gap in the literature.

Before Gounaris's (2005) significant contribution to the literature there also existed research on industrial service quality. One of the first studies on service quality in industrial context was suggested by Grönroos (1984). The author proposed that there are mainly two types of perceived service quality in business-to-business context: 'technical quality' and 'functional quality'. These dimensions reflect the hard and soft quality dimensions of SERVQUAL scale. This study was followed by the research of Bresinger and Lambert (1990), in which SERVQUAL was applied to industrial purchases of motor carrier transportation services. They developed a four-factor structure, but predictive validity

of SERVQUAL in this context was quite poor. Following this study, Edvardsson *et al.* (1990) (cited in Szmigin, 1993;Gounaris, 2005) proposed another dimension namely 'integrative quality'. Morgan (1991) suggested that 'process elements' and 'outcome elements' are the basic two dimensions of perceived service quality. Szmigin (1993) strengthened the view that there are three important elements of perceived service quality and named the dimensions as: 'hard', 'soft' and 'outcome'. Hard quality dimension is relevant to the technical quality element that was determined by Grönroos (1984). Soft quality reflects the functional quality dimension of Grönroos's study. Soft quality dimension is related to what is being performed during the service production process. On the other hand, hard quality reflects to how the service is performed during the service production process (Gounaris, 2005). The 'output quality' dimension offered by Szmigin (1993) is pertained the customers' assessments about the results of hard and soft elements. In a later work by Halinen (1994), it is suggested that the dimension of 'output quality' should be divided into two sub dimensions as: 'immediate outcome quality' and 'final outcome quality'. 'Immediate outcome quality' refers to the ability of the service provider to solve a service related problem of the customer. 'Final outcome quality' refers to the results of the solution that has been provided by the service producer to the customer. Patterson (1995) (cited in Gounaris, 2005) highlighted the importance and complexity of the customer's evaluation process of the service provider's capacity to achieve the expected

performance. Bienstock *et al.* (1997) developed a valid and reliable measurement for perceptions of 'physical distribution service quality' (PDSQ). They determined eight logistics service quality dimensions as: "information quality, ordering procedures, ordering release quantities, timeliness, order accuracy, order quality, order condition, order discrepancy handling, and personnel contact quality".

Durvasula *et al.* (1999) applied SERVQUAL to business-to-business industry and they proposed to use only three dimensions of SERVQUAL (responsiveness, assurance and empathy) could be combined and a scale with 3 dimensions could be used in industrial markets. The authors stated that "...the service quality measures developed for consumer services can only be applied with caution in business-to-business marketing".

Based on the model of Parasuraman *et al.* (1985,1988, 1991(a)), Rafele (2004) proposed three dimensions for perceived quality measurement in industrial context. The study was conducted in logistics sector. Three dimensions of his model are: 'tangible components', 'ways of fulfillment' and 'informative actions'.

As mentioned above, starting with Grönroos's (1984), many researchers have focused on the service quality concept in industrial context. They determined a number of dimensions and elements of industrial service

quality concept. However, it was not possible to generalize those dimensions to integrate all dimensions offered in the literature. It is safe to say that, the study of Gounaris (2005) suggested an integrated "industrial service quality instrument" (INDSERV instrument). The author suggested that, in industrial service context, INDSERV scale exhibits better structure than SERVQUAL scale in order to measure the perceived service quality.

Firstly, Gounaris (2005) determined the dimensions of perceived service quality as identified in the literature: 'potential, hard, soft, immediate output and final output quality'. After an assessment of 'industrial service quality' (INDSERV) dimensions based on research, it was found that four factors model is superior to the five factors model. Therefore, the immediate and final output quality dimensions decreased to one dimension as output quality. The other predetermined factors (potential quality, hard process quality and soft process quality) remained same. The dimensions and items of 'industrial service quality' (INDSERV) dimensions are shown in Table 6.

As mentioned above, industrial service quality is one of the main variables of the proposed model in this study. The research and the constructs are defined in the following chapter.

Table 6: Dimensions and Items of INDSERV Scale

Potential Quality	Offers full service
	Has required personnel
	Has required facilities
	Has a low personnel turn-over
	Uses network of partners/associates
Hard Process Quality	Keeps time schedules
	Honors financial agreements/stays in budgets
	Meets deadlines
	Looks at details
	Understands our needs
Soft Process Quality	Accepted enthusiastically
	Listen to our problems
	Open to suggestions/ideas
	Pleasant personality
	Argue if necessary
	Look after our interests
Output Quality	Reaches objectives
	Has a notable effect
	Contributes to our sales/image
	Is creative in terms of its offering
	Is consistent with our strategy

Source: Gounaris (2005)

Based on the literature review in Chapter 1 and 2, following chapter explains the research methodology process.

CHAPTER 3

RESEARCH METHODOLOGY

This research is based on three major literature gaps. Firstly, this thesis aims to highlight the importance of services supply chain management and accordingly services supply chain orientation concepts. Secondly, it aims to emphasize on the service quality concept in industrial context. Finally, it purposes to investigate the relationship between services supply chain orientation and industrial service quality. The reasons for this research and the attempt to fill these gaps were described in the previous chapters in detail. However, a summary may be presented as follows.

3.1. PURPOSE OF THE RESEARCH

This research is based on three major literature gaps. Firstly, this thesis aims to highlight the importance of services supply chain management and accordingly services supply chain orientation concepts. Secondly, it is aimed to emphasize on the service quality concept in industrial

context. Finally, it is purposed to investigate the relationship between services supply chain orientation and industrial service quality. The reasons to research in and try to fill these gaps were described in the previous chapters in detail. However, a summary may be presented as follows.

Firstly, there is a need for a research in services supply chain and services supply chain orientation. Although, manufacturing practices and analyses have been applied to the service area until recent years, there is a need for concentration into services supply chains due to the differences between services and goods. Similarly, supply chain orientation is a new concept that has been emphasized in a small number of studies. More importantly, the concept has not been studied in service industry context. Supply chain orientation is a concept that should be implemented and possessed by and across all companies that are connected to each other along the supply chain. The concept is critical, since supply chain management is a notion that includes all management actions to realize a supply chain orientation. Therefore, these two concepts are inextricable. Due to the scarce research in both concepts, investigating these notions was proposed in this thesis.

Secondly, there exists a need for research in industrial service quality. Although service quality is researched in detail, most

of these studies were implemented in consumer markets. There are a few studies in which SERVQUAL scale and gap model has been used in order to measure service-quality in industrial context. This fact was examined in detail in Chapter 2. Studies in industrial service quality start with Brensinger and Lambert (1990). The most recent and significant contribution was done by Gounaris (2005). He developed a new scale, INDSERV, based on the existing literature. Since it is a recent study, the INDSERV scale has not been implemented in different service sectors as well as in different cultures. Therefore the second objective of this study is to examine industrial service quality concept and adapt INDSERV measurement of Gounaris (2005) in tourism industry in Turkey.

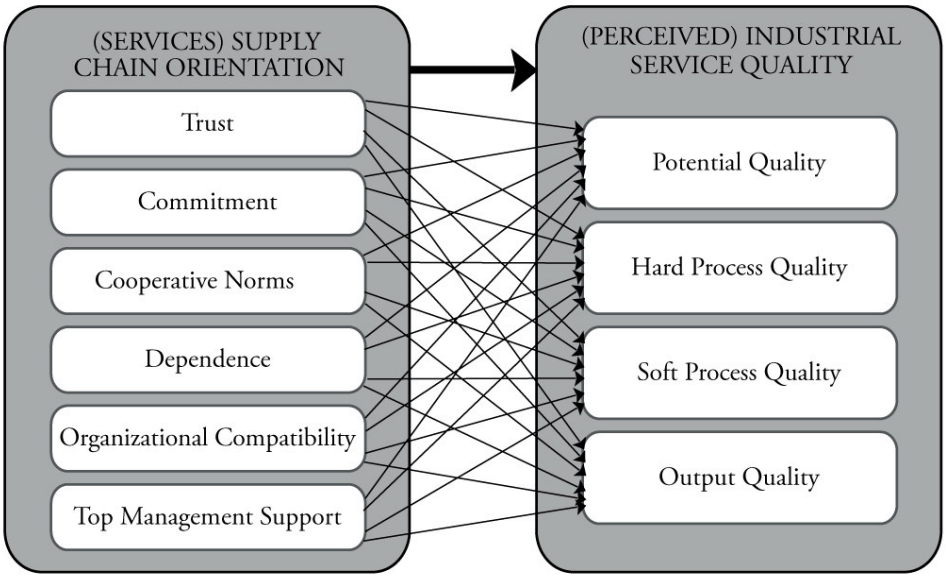
Thirdly, the need for a research in association between services supply chain orientation and industrial service quality. Exploring the relationship between services supply chain orientation, which is a requirement in effective supply chain management, and higher service quality of the service supplier firm, which is a potential output of successful supply chain management, is the third objective of this thesis.

Regarding these research topics, the research model is illustrated as follows.

3.2. RESEARCH MODEL

The research model is based on the literature review presented in the previous chapters and depicted in Figure 4.

Figure 4: The Research Model



There are two main variables in the model: 'services supply chain orientation' and 'industrial service quality'. The model proposes that the level of service buyer's supply chain orientation affect the level of perceived industrial service quality of the service supplier.

The model basically suggests that the supply chain orientation, which is a necessity of services supply chain management, will lead to favorable

perceived industrial service quality, which is an aimed output and result of an effective supply chain management. Although such a relationship was intended indirectly in the literature, there is a lack of research about this relationship.

As illustrated, the model also proposes associations between each dimension of supply chain orientation and each dimension of industrial service quality.

3.3. RESEARCH QUESTIONS

The detailed illumination of research questions and their relationship with the hypotheses of this research are as follows.

Research Question 1: Is there a link between the level of buyers' services supply chain orientation and buyers' perceived industrial service quality of the service provider?

This question aims to investigate the relationship between the service buyer's level of supply chain orientation and the buyer's perceived service quality of the service supplier. This question intends to explore the impact of supply chain orientation of service buyer on the degree of

industrial service quality of service supplier. This question pertains to Hypothesis 1.

Research Question 2: To what extent do the supply chain orientation dimensions have an association with the dimensions of customer's perceived industrial service quality of the service provider?

Each dimension of supply chain orientation, trust, commitment, cooperative norms, dependence, organizational compatibility and top management support are critically important for supply chain related concepts and buyer-supplier relationships. Each dimension, solely, significant for the supply chain literature.

Similarly, recently determined dimensions of industrial service quality, by Gounaris (2005), have a considerable importance for the current and future research.

The association and link between all dimensions of both supply chain orientation and industrial service quality and their extent is one of the aims of this research. Therefore, to explore the mutual interaction of these dimensions is purposed in this research. Concerning this question, hypotheses between Hypothesis 3 and Hypothesis 26 are determined.

Research Question 3: Can industrial service quality be predicted by the dimensions of supply chain orientation?

This question investigates the predictors of industrial service quality. As previously noted, this research aims to explore the relationship between supply chain orientation and industrial service quality. This question aims to highlight this relation by examining if the dimensions of supply chain orientation can predict the industrial service quality. This question pertains to Hypothesis 2.

3.4. HYPOTHESES

Based on the research question, following hypotheses are determined to be tested in this research.

Hypothesis 1: **Services supply chain orientation** is positively associated with **industrial service quality.**

Hypothesis 2: **Industrial service quality** is predicted by services supply chain orientation dimensions, which are **trust, commitment, cooperative norms, dependence, organizational compatibility, and top management support.**

Hypothesis 3: **Trust** dimension of services supply chain orientation is positively associated with **potential quality** dimension of industrial service quality.

Hypothesis 4: **Trust** dimension of services supply chain orientation is positively associated with **hard process quality** dimension of industrial service quality.

Hypothesis 5: **Trust** dimension of services supply chain orientation is positively associated with **soft process quality** dimension of industrial service quality.

Hypothesis 6: **Trust** dimension of services supply chain orientation is positively associated with **output quality** dimension of industrial service quality.

Hypothesis 7: **Commitment** dimension of services supply chain orientation is positively associated with **potential quality** dimension of industrial service quality.

Hypothesis 8: **Commitment** dimension of services supply chain orientation is positively associated with **hard process quality** dimension of industrial service quality

Hypothesis 9: **Commitment** dimension of services supply chain orientation is positively associated with **soft process quality** dimension of industrial service quality.

Hypothesis 10: **Commitment** dimension of services supply chain orientation is positively associated with **output quality** dimension of industrial service quality.

Hypothesis 11: **Cooperative norms** dimension of services supply chain orientation is positively associated with **potential quality** dimension of industrial service quality.

Hypothesis 12: **Cooperative norms** dimension of services supply chain orientation is positively associated with **hard process quality** dimension of industrial service quality.

Hypothesis 13**: Cooperative norms** dimension of services supply chain orientation is positively associated with **soft process quality** dimension of industrial service quality.

Hypothesis 14: **Cooperative norms** dimension of services supply chain orientation is positively associated with **output quality** dimension of industrial service quality.

Hypothesis 15: **Dependence** dimension of services supply chain orientation is positively associated with **potential quality** dimension of industrial service quality.

Hypothesis 16: **Dependence** dimension of services supply chain orientation is positively associated with **hard process quality** dimension of industrial service quality.

Hypothesis 17: **Dependence** dimension of services supply chain orientation is positively associated with **soft process quality** dimension of industrial service quality.

Hypothesis 18: **Dependence** dimension of services supply chain orientation is positively associated with **output quality dimension** of industrial service quality.

Hypothesis 19: **Organizational compatibility** dimension of services supply chain orientation is positively associated with **potential quality** dimension of industrial service quality.

Hypothesis 20: **Organizational compatibility** dimension of services supply chain orientation is positively associated with **hard process quality** dimension of industrial service quality.

Hypothesis 21: **Organizational compatibility** dimension of services supply chain orientation is positively associated with **soft process quality** dimension of industrial service quality.

Hypothesis 22: **Organizational compatibility** dimension of services supply chain orientation is positively associated with **output quality** dimension of industrial service quality.

Hypothesis 23: **Top Management Support** dimension of services supply chain orientation is positively associated with **potential quality** dimension of industrial service quality.

Hypothesis 24: **Top Management Support** dimension of services supply chain orientation is positively associated with **hard process quality** dimension of industrial service quality.

Hypothesis 25: **Top Management Support** dimension of services supply chain orientation is positively associated with **soft process quality** dimension of industrial service quality.

Hypothesis 26: **Top management support** dimension of services supply chain orientation is positively associated with **output quality** dimension of industrial service quality.

3.5. RESEARCH DESIGN

A survey research design was used to collect data to test the hypotheses. It should be noted that, methodologically developed survey construction is essential in an organizational survey process. As mentioned above, the majority of items for the questionnaire were adapted from previous related studies.

There are some reasons of using survey research design for this thesis. Firstly, survey technique provides to gather perceptual data from a relatively large population. Secondly, data collected by survey are easily quantifiable. Thirdly, the data collected by survey is suitable to statistical analysis and hypothesis testing (Marshall and Rossman, 1989). Fourthly, measures for most of the constructs were developed for survey design in previous studies and a replication for the past studies is required. Finally, it is known that, information obtained by survey is relatively accurate within sampling error (Kerlinger, 1992).

The survey consists of many items for measurement of different dimensions of two main variables. It should be noted that, any particular construct, trait or dimension should be measured by at least two and preferably more items. Therefore, researchers prefer to use multi-item than single-item measures of their constructs (Churchill

1979). Accordingly, multi-item measures are developed and/or adapted to evaluate each of the constructs in this study.

In this study, all of the variables of interest were estimated through respondents' perceptual evaluation: respondents' perception of a supply chain orientation level in their own firms and industrial service quality levels of their suppliers. Specifically, each respondent was asked to rate each item on a seven-point Likert scale to reflect his/her opinions, beliefs, and attitudes toward the dimensions of supply chain orientation and industrial service quality. The response categories for each item were anchored from 1 (Strongly disagree) to 5 (Strongly agree) and neutral at the scale midpoint (3). 5 point Likert scale was preferred to use in this research since the surveys are in Turkish language.

Turkish and English versions of the questionnaire are presented in Appendix 1 and Appendix 2.

Likert scale was used in this research due to its advantages. These advantages can be summarized as follows: The scale is easy to understand for the respondents. The scale is easy to construct and administer. It is appropriate to use the scale during survey conducting by mail, telephone or personal interviews (Malhotra, 2004).

3.6. SAMPLING PROCEDURE

Tourism industry is selected to conduct a survey technique in. This is firstly due to the fact that, as known, tourism is one of the biggest sectors of the global economy and the largest generator of employment both in Turkey and in the world. From the supply chain perspective, hotels play a role of focal company in tourism industry. Therefore, the research was conducted mainly by the interviews with the hotel managers. This study utilizes survey distributed to region wide sample of top and/or purchasing managers of hotels which are service buyer companies.

The sampling frame is determined based on the database of Republic of Turkey Ministry of Culture and Tourism. Five star and four star hotels in Izmir, Aydın and Muğla are included to the sample. The list of these hotels gathered from Republic of Turkey Ministry of Culture and Tourism. Izmir, Aydın and Muğla are three cities of Aegean Region of Turkey. They are positioned in the west side of the region and all have coastal areas. Since these provinces are tourism centers of Turkey, the hotels in these cities represent the sample population. The sample frame contains 135 hotels.

Convenience sampling techniques was used during the research. Since the difficulty of 'accessibility' to the hotel managers, convenience

sample offered a significant advantage in this study. The technique is frequently preferred by the researchers due to the advantages of the technique including: being least expensive and least time consuming (Malhotra, 2004).

The sampling unit for the study was the service firm, hotel, represented by one key informant. The key informants are those individuals who have positions as top and/or purchasing managers of the hotels, service buyers.

3.7. DATA COLLECTION METHOD

The survey technique was conducted by face-to-face interviews. This study utilized surveys distributed to region wide sample of top and/or purchasing managers of, hotels, service buyer companies. Top and/or purchasing managers are in the best position to answer the questions of this survey because of their experiences and access to operational and quality performance data. The survey directed respondents to evaluate the services received from their primary supplier of their most often purchased service. Firstly, the respondents were asked the determine one of their service supplier from whom they most frequently purchase services. Then, the service industry in which the supplier performs was asked.

Therefore, the other questions of the survey were answered according to only one services supplier of the respondents.

3.8. PILOT STUDY

A pilot study was conducted to pretest the questionnaire and make an estimate on the expected response rate. The pilot study was consisted of 25 face-to-face surveys. Reliabilities were calculated for all construct scales. Reliability was assessed using Cronbach's Coefficient Alpha by using SPSS V. 11 statistical program. According to the results of reliability analysis, based on the Cronbach's Alpha results, it was decided to eliminate a number of items. Elimination process was based on the SPSS V. 11 results that indicate the changes if each item is deleted from each construct. Finally, items numbered as: 6 (item of trust construct), 18 (item of commitment construct), 19 (item of commitment construct), 27(item of dependence construct), 31 (item of organizational compatibility), 40 (item of potential quality), 41 (item of potential quality) were deleted.

3.9. MEASUREMENT OF VARIABLES

The measurement of scales are operationalized and adapted primarily from previous studies in management, marketing, especially relationship marketing, supply chain and psychology. Most of the constructs were measured using multiple item scales.

There exist descriptive measures of the study that are not directly associated with the hypotheses testing. These variables include the demographic measures about the firm (e.g., number of employees) and the respondent (e.g., title of the position, level of responsibility).

On the other hand, independent variables associated during testing the hypotheses include the various dimensions of supply chain orientation and industrial service quality. The measures for determinants of supply chain orientation and the determinants of industrial service quality are mostly adapted from the previous related studies. As mentioned before the determinants of supply chain orientation are: trust, commitment, cooperative norms, dependence, organizational compatibility and top management support while the determinants of industrial service quality are: potential quality, hard process quality, soft process quality and output quality. Each construct and item that are included in the survey are described below. A (R) notation identifies reverse coded items.

Trust dimension of supply chain orientation is measured by the following 12 items. Trust has two sub dimensions as credibility and benevolence. First 7 items, reflecting to credibility, were adapted from the study of Siguaw *et al.* (1998), following items from 8 and 12, reflecting to benevolence, were adapted from the study of Kumar et al., (1995). The 12 item scale is as follows:

1. Our supplier has been frank in dealing with us.
2. Promises made by this supplier are reliable.
3. Our supplier is knowledgeable regarding his/her services.
4. Our supplier has problems understanding our position. (R)
5. Our supplier does not make false claims.
6. Our supplier is not open in dealing with us. (R)
7. Our supplier has problems answering our questions. (R)
8. Through circumstances change, we believe that our supplier will be ready and willing to offer us assistance and support.
9. When making important decisions, our supplier is concerned about our welfare.
10. When we share our problems with this supplier, we know that they will respond with understanding.
11. In the future we can count on our supplier to consider how its decisions and actions will affect us.
12. When it comes to things which are important to us, we can depend on our supplier's support.

Commitment to the relationship dimension of supply chain orientation is measured by the items from 13 to 19. Items from 13 to 17 were adapted from the study of Siguaw *et al.* (1998), while the items 18 and 19 were adapted from the study of Kumar *et al.* (1995). These items are as follows:

13. We defend our supplier when outsiders criticize the company.
14. We are continually on the look out for another supplier to replace or to add to our current supplier.(R)
15. If another supplier offered us to better coverage, we would most certainly take them on, even if it meant dropping this supplier. (R)
16. We are patient with our supplier when they make mistakes that cause us trouble.
17. We are willing to dedicate whatever people and resources it takes to grow sales for our supplier.
18. We want to remain a member of the supplier's network, because we genuinely enjoy our relationship with them.
19. Our positive feelings towards the supplier are a major reason we continue working with them.

The dimension of supply chain orientation, **cooperative norms** with the supplier, is measured by the items from 20 to 25. Items from 20 to 25 were adapted from the study of Siguaw et al. (1998). These items are as follows:

20. No matter who is at fault, problems are joint responsibilities.
21. Both sides are concerned about other's profitability.
22. One party will not take advantage of a strong bargaining position.
23. Both sides are willing to make cooperative changes.
24. We must work together with our supplier to be successful.
25. We do not mind owing each other.

Dependence to the supplier dimension of supply chain orientation is measured by the items 26, 28 and 29. Item 27 is added by the author to strengthen the meaning of item 26. Since the survey was conducted in Turkish, it is thought that an extra item was needed especially due to the translation difficulties of item 26. The word 'dependent' may be reflected negative meanings by in Turkish language. These items were adapted from the study of Lush and Brown (1996) and are as follows:

26. We are dependent to our supplier.
27. We believe that the service provided by this supplier is believed as the best.
28. Our supplier would be difficult to replace.
29. Our supplier would be costly to lose.

Organizational compatibility with the supplier dimension of supply chain orientation is measured by the items 30, 31 and 32. Items 30, 31 were adapted from the study of Bucklin and Sengupta (1993) and item 32 was added by the author. The items are as follows:

30. Our firm's goals and objectives are consistent with our supplier.

31. Our CEO and the CEO of our supplier have similar operating philosophies.

32. Our firm and the supplier firm have similar internal practices.

Top management support dimension of supply chain orientation is measured by the items from 33 to 36 and were adapted from the study of Jaworski and Kohli (1993). The items are as follows:

33. Top managers here; repeatedly tell employees that this business unit's survival depends on its adapting to market trends.

34. Top managers in this company, often tell employees to be sensitive to the activities of our competitors.

35. Top managers of this company keep telling people around here that they must gear up now to meet customers' future needs.

36. According to top managers here, serving customers is the most important thing our business unit does.

The following items starting with 37 reflects INDSERV variable and were adapted from the study of Gounrais (2005). The dimensions of INDSERV and the items are as follows:

Potential Quality

37. Our supplier offers full service.

38. Our supplier has required personnel.

39. Our supplier has required facilities.

40. Our supplier has required management philosophy.

41. Our supplier has a low personnel turn-over.

42. Our supplier uses network of partners and associates.

Hard Process Quality

43. Our supplier keeps time schedules.

44. Our supplier honors financial agreements and stays in budgets.

45. Our supplier meets deadline.

46. Our supplier looks at details.

47. Our supplier understands our needs.

Soft Process Quality

48. Our supplier is accepted enthusiastically.

49. Our supplier listens to our problems.

50. Our supplier is open to suggestions/ideas.

51. Our supplier has a pleasant personality.

52. Our supplier argues if necessary.

53. Our supplier looks after our needs.

Output Quality

54. Our supplier reaches objectives.

55. Our supplier has a notable effect.

56. Our supplier contributes to our sales and image.

57. Our supplier is creative in terms of its offerings.

58. Our supplier's strategy is consistent with our strategy.

3.10. GENERAL ANALYTICAL STRATEGY

To test the hypothesis, correlation analysis and multiple regression analysis were conducted. All tests were run with SPSS V. 11 statistical package. For the statistical analyses, significance levels are determined as both .05 and .01.

Findings with respect to sample characteristics, proposed hypotheses and reliability of the scales and the research are given in the following chapter.

CHAPTER 4

FINDINGS

This chapter presents the results of the survey and the statistical analysis of the responses. Firstly, the results and statistical findings of the sample demographics, secondly, the reliability analysis of the constructs are presented. Finally, the results of hypothesis testing are emphasized in this chapter.

4.1. CHARACTERISTICS

There were 39 manager responses. A total of 39 top and/or purchasing managers of different 4 star and 5 star hotels were interviewed. Since the sample frame contains 135 hotels, the response rate is approximately 29 %.

Frequencies regarding to respondents' characteristics are depicted in Table 7.

Table 7: Respondents' Characteristics

POSITION	Purchasing Manager	.36
	Top Manager	.64
EXPERIENCE IN THE CURRENT POSITION	‹5 years	.44
	5-9 years	.28
	›9	.28
INFLUENCE LEVEL OF PURCHASING DECISION	High	.70
	Moderate	.25
	Low	.5

The frequencies regarding to firm characteristics are shown in Table 8.

Table 8: Firm Characteristics

NUMBER OF EMPLOYEES	1-50	.32
	51-150	.43
	151-500	.23
	›501	.2
YEARS OF EXPERIENCE IN THE SECTOR	‹5 years	.62
	5-9 years	.18
	›9	.20
YEARS OF RELATIONSHIP WITH THE SUPPLIER	‹5 years	.67
	5-9 years	.21
	›9	.12

4.2. RELIABILITY OF CONSTRUCTS

Regarding to the results of pilot study, a number of items were eliminated. After the elimination process, the reliability analysis for the constructs was conducted again.

Since the measures used in this study are well-established in the literature, the scales used for these constructs were expected to display relatively high reliability. In fact, reliabilities for these constructs ranged from .67 to .84 (Table 9). The expected values of Cronbach's Alpha are higher than .70 for established scale, and values of .50 for exploratory scales (O'Leary-Kelly and Vokurka, 1998). However, due to the relatively less number of sample size and less number of items in some of the constructs, an alpha .65 is considered acceptable.

Table 9: Reliability of Constructs

Construct	Cronbach's Alpha
Trust	.7131
Commitment	.7142
Cooperative Norms	.6706
Organizational Compatibility	.7361
Top Management Support	.7365
Potential Quality	.8427
Hard Process Quality	.6673
Soft Process Quality	.6978
Output Quality	.6879

4.3. FINDINGS ON HYPOTHESES

The hypotheses, developed accordingly with research questions of the study were tested with particularly correlation analysis and regression analysis. Findings of the analyses are presented below.

> ***Research Question 1:*** *Is there a link between the level of buyer's services supply chain orientation and perceived industrial service quality of the service provider?*

> ***Hypothesis 1:*** *Services Supply Chain Orientation is positively associated with Industrial Service Quality*

Correlation analysis was used to test this hypothesis. Means of the variables were used during the test. Result of the analysis is presented in Table 10.

Table 10: Correlation Table (1)

CORRELATIONS		
		Supply Chain Orientation
Industrial Service Quality	Pearson Correlation	.814**
	Sig. (2-tailed)	.000
	N	39

** Correlation is significant at the .01 level (2-tailed)

According to the correlation table, it can be seen that there is a positive relationship between services supply chain orientation and industrial service quality. There is a high level of relation between two main variables (r=.81). The correlation coefficient is significant at the level of .01. Therefore, Hypothesis 1 is not rejected.

> ***Research Question 2:*** *To what extent do the supply chain orientation dimensions have an association with the dimensions of customer's perceived industrial service quality of the service provider?*

Correlation analysis was used to test hypotheses related to research question 2. Means of the variables were used to test. Tables of analyses results are presented after the related hypothesis (Table 11-35).

The results of the correlation are regarding to hypotheses that related to research question 2. As a result, while the majority of these hypotheses are 'accepted', a few of them are rejected. The result of analyses for the following hypotheses depict that there is a significant and positive relationship between the variables determined in each hypothesis: H4, H5, H6, H7, H8, H9, H10, H12, H13, H14, H15, H16, H17, H18, H24, H25, H26.

On contrary, the other hypotheses concerning research question 2 are rejected. The result of the correlations analyses illustrate that the associations between the variables of the following hypotheses are not significant: H3, H11, H19, H20, H21, H22, H23.

Hypothesis 3: *Trust dimension of services supply chain orientation is positively associated with potential quality dimension of industrial service quality*

Table 11: Correlation Table (2)

CORRELATIONS		
		Potential Quality
Trust	Pearson Correlation	.306
	Sig. (2-tailed)	.058
	N	39

Hypothesis 4: *Trust dimension of services supply chain orientation is positively associated with hard process quality dimension of industrial service quality*

Table 12: Correlation Table (3)

CORRELATIONS		
		Hard Process Quality
Trust	Pearson Correlation	.581**
	Sig. (2-tailed)	.000
	N	39

** Correlation is significant at the .01 level (2-tailed)

Hypothesis 5: *Trust dimension of services supply chain orientation is positively associated with soft process quality dimension of industrial service quality*

Table 13: Correlation Table (4)

CORRELATIONS		
		Soft Process Quality
Trust	Pearson Correlation	.563**
	Sig. (2-tailed)	.000
	N	39

** Correlation is significant at the .01 level (2-tailed)

Hypothesis 6: *Trust dimension of services supply chain orientation is positively associated with output quality dimension of industrial service quality*

Table 14: Correlation Table (5)

CORRELATIONS		
		Output Quality
Trust	Pearson Correlation	.494**
	Sig. (2-tailed)	.001
	N	39

** Correlation is significant at the .01 level (2-tailed)

Hypothesis 7: *Commitment dimension of services supply chain orientation is positively associated with potential quality dimension of industrial service quality*

Table 15: Correlation Table (6)

CORRELATIONS		
		Potential Quality
Commitment	Pearson Correlation	.431**
	Sig. (2-tailed)	.006
	N	39

** Correlation is significant at the .01 level (2-tailed)

Hypothesis 8: *Commitment dimension of services supply chain orientation is positively associated with hard process quality dimension of industrial service quality dimension of industrial service quality*

Table 16: Correlation Table (7)

CORRELATIONS		
		Hard Process Quality
Commitment	Pearson Correlation	.588**
	Sig. (2-tailed)	.000
	N	39

** Correlation is significant at the .01 level (2-tailed)

Hypothesis 9: *Commitment dimension of services supply chain orientation is positively associated with soft process quality*

Table 17: Correlation Table (8)

CORRELATIONS		
		Soft Process Quality
Commitment	Pearson Correlation	·547**
	Sig. (2-tailed)	.000
	N	39

** Correlation is significant at the .01 level (2-tailed)

Hypothesis 10: *Commitment dimension of services supply chain orientation is positively associated with output quality dimension of industrial service quality*

Table 18: Correlation Table (9)

CORRELATIONS		
		Output Quality
Commitment	Pearson Correlation	·478**
	Sig. (2-tailed)	.002
	N	39

** Correlation is significant at the .01 level (2-tailed)

Hypothesis 11: *Cooperative norms dimension of services supply chain orientation is positively associated with potential quality dimension of industrial service quality*

Table 19: Correlation Table (10)

CORRELATIONS		
		Potential Quality
Cooperative Norms	Pearson Correlation	.238
	Sig. (2-tailed)	.144
	N	39

Hypothesis 12: *Cooperative norms dimension of services supply chain orientation is positively associated with hard process quality dimension of industrial service quality*

Table 20: Correlation Table (11)

CORRELATIONS		
		Hard Process Quality
Cooperative Norms	Pearson Correlation	·537**
	Sig. (2-tailed)	.000
	N	39

** Correlation is significant at the .01 level (2-tailed)

Hypothesis 13: *Cooperative norms dimension of services supply chain orientation is positively associated with soft process quality dimension of industrial service quality*

Table 21: Correlation Table (12)

CORRELATIONS		
		Soft Process
Cooperative Norms	Pearson Correlation	.569**
	Sig. (2-tailed)	.000
	N	39

** Correlation is significant at the .01 level (2-tailed)

Hypothesis 14: *Cooperative norms dimension of services supply chain orientation is positively associated with output quality dimension of industrial service quality*

Table 22: Correlation Table (13)

CORRELATIONS		
		Output Quality
Cooperative Norms	Pearson Correlation	.506**
	Sig. (2-tailed)	.001
	N	39

** Correlation is significant at the .01 level (2-tailed)

Hypothesis 15: *Dependence dimension of services supply chain orientation is positively associated with potential quality dimension of industrial service quality*

Table 23: Correlation Table (14)

CORRELATIONS		
		Potential Quality
Dependence	Pearson Correlation	.493**
	Sig. (2-tailed)	.001
	N	39

** Correlation is significant at the .01 level (2-tailed)

Hypothesis 16: *Dependence dimension of services supply chain orientation is positively associated with hard process quality dimension of industrial service quality*

Table 24: Correlation Table (15)

CORRELATIONS		
		Hard Process Quality
Dependence	Pearson Correlation	.468**
	Sig. (2-tailed)	.003
	N	39

** Correlation is significant at the .01 level (2-tailed)

Hypothesis 17: *Dependence dimension of services supply chain orientation is positively associated with soft process quality dimension of industrial service quality*

Table 25: Correlation Table (16)

CORRELATIONS		
		Soft Process Quality
Dependence	Pearson Correlation	.512*
	Sig. (2-tailed)	.001
	N	39

** Correlation is significant at the .01 level (2-tailed)

Hypothesis 18: *Dependence dimension of services supply chain orientation is positively associated with output quality dimension of industrial service quality*

Table 26: Correlation Table (17)

CORRELATIONS		
		Output Quality
Dependence	Pearson Correlation	.560**
	Sig. (2-tailed)	.000
	N	39

** Correlation is significant at the .01 level (2-tailed)

Hypothesis 19: *Organizational compatibility dimension of services supply chain orientation is positively associated with potential quality dimension of industrial service quality*

Table 27: Correlation Table (18)

CORRELATIONS		
		Potential Quality
Organizational Compatibility	Pearson Correlation	- .062
	Sig. (2-tailed)	.708
	N	39

Hypothesis 20: *Organizational compatibility dimension of services supply chain orientation is positively associated with hard process quality dimension of industrial service quality*

Table 28: Correlation Table (19)

CORRELATIONS		
		Hard Process Quality
Organizational Compatibility	Pearson Correlation	.227
	Sig. (2-tailed)	.165
	N	39

Hypothesis 21: *Organizational compatibility dimension of services supply chain orientation is positively associated with soft process quality dimension of industrial service quality*

Table 29: Correlation Table (20)

CORRELATIONS		
		Soft Process Quality
Organizational Compatibility	Pearson Correlation	.233
	Sig. (2-tailed)	.154
	N	39

Hypothesis 22: *Organizational compatibility dimension of services supply chain orientation is positively associated with output quality dimension of industrial service quality*

Table 30: Correlation Table (21)

CORRELATIONS		
		Output Quality
Organizational Compatibility	Pearson Correlation	.169
	Sig. (2-tailed)	.302
	N	39

Hypothesis 23: *Top management support dimension of services supply chain orientation is positively associated with potential quality dimension of industrial service quality*

Table 31: Correlation Table (22)

CORRELATIONS		
		Potential Quality
Top Management Support	Pearson Correlation	.179
	Sig. (2-tailed)	.276
	N	39

Hypothesis 24: *Top management support dimension of services supply chain orientation is positively associated with hard process quality dimension of industrial service quality*

Table 32: Correlation Table (23)

CORRELATIONS		
		Hard Process Quality
Top Management Support	Pearson Correlation	.477**
	Sig. (2-tailed)	.002
	N	39

** Correlation is significant at the .01 level (2-tailed)

Hypothesis 25: *Top management support dimension of services supply chain orientation is positively associated with soft process quality dimension of industrial service quality*

Table 33: Correlation Table (24)

CORRELATIONS		
		Soft Process Quality
Top Management Support	Pearson Correlation	.396*
	Sig. (2-tailed)	.013
	N	39

* Correlation is significant at the .05 level (2-tailed)

Hypothesis 26: *Top management support dimension of services supply chain orientation is positively associated with output quality dimension of industrial service quality*

Table 34: Correlation Table (25)

CORRELATIONS		
		Output Quality
Top Management Support	Pearson Correlation	.502**
	Sig. (2-tailed)	.001
	N	39

** Correlation is significant ate the .01 level (2-tailed)

Also, the relationship between the dimensions of supply chain orientation is tested by correlation analysis and results are shown in Appendix 3. Similarly, the results of correlation analysis regarding to the relationship between the dimensions of industrial service quality is depicted in Appendix 4.

Research Question 3: *Can industrial service quality be predicted by the dimensions of supply chain orientation?*

Hypothesis 2: *Industrial service quality is predicted by services supply chain orientation dimensions which are trust, commitment, cooperative norms, dependence, organizational compatibility, top management support*

Multiple regression analysis, with enter method, was used to test the above-mentioned hypothesis. Means of the variables were used to test. Result of the regression analysis is presented in Table 35 and the coefficient vales are illustrated in Table 36.

Table 35: Regression Model Summary

Regression Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.829[a]	.687	.628	.14805

a. Predictors: (Constant), Trust, Commitment, Organizational Compatibility, Dependence, Top Management Support
b. Dependent Variable: Industrial Service Quality

R square value (.687) represents all the variance of the independent variables on industrial service quality. 69 % of the variance in industrial service quality can be accounted by determinants of supply chain orientation including; trust, commitment, organizational compatibility, dependence and top management support. Therefore the hypothesis is accepted.

Table 36: Table of Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.003	.549		.067	.947
	Trust	.307	.135	.280	2.284	.029*
	Commitment	.149	.074	.241	2.011	.053*
	Cooperative Norms	.177	.132	.175	1.344	.188
	Dependence	.188	.079	.291	2.394	.023*
	Organizational Compatibility	.009	.042	.221	2.049	.049*
	Top Management Support	.103	.077	.154	1.338	.190

The coefficients table reveals that the predictors of industrial service quality are trust, commitment, dependence and organizational compatibility. According to the results, top management and cooperative norms are not the predictors of industrial model. It should be noted that, as a consequence of multiple regression test, four of proposed supply chain orientation determinants can predict the perceived industrial service quality. According to the findings, trust contributes most and organizational compatibility contributes least to the level of perceived industrial quality.

4.4. SUMMARY OF FINDINGS

A summary of findings on analyzed hypotheses is presented in Table 37.

Table 37: Summary of Findings

Hypotheses	Result
Hypothesis 1 **Services Supply Chain Orientation** is positively associated with **Industrial Service Quality**	Accepted
Hypothesis 2 **Industrial Service Quality** is predicted by Services Supply Chain Orientation dimensions which are **Trust, Commitment, Cooperative Norms, Dependence, Organizational Compatibility, Top Management Support**	Accepted
Hypothesis 3 **Trust** dimension of services supply chain orientation is positively associated with **Potential Quality** dimension of Industrial Service Quality	Rejected
Hypothesis 4 **Trust** dimension of services supply chain orientation is positively associated with **Hard Process Quality** dimension of Industrial Service Quality	Accepted
Hypothesis 5 **Trust** dimension of services supply chain orientation is positively associated with **Soft Process Quality** dimension of Industrial Service Quality	Accepted
Hypothesis 6 **Trust** dimension of services supply chain orientation is positively associated with **Output Quality** dimension of Industrial Service Quality	Accepted
Hypothesis 7 **Commitment** dimension of services supply chain orientation is positively associated with **Potential Quality** dimension of Industrial Service Quality	Accepted
Hypothesis 8 **Commitment** dimension of services supply chain orientation is positively associated with **Hard Process Quality** dimension of Industrial Service Quality	Accepted
Hypothesis 9 **Commitment** dimension of services supply chain orientation is positively associated with **Soft Process Quality** dimension of Industrial Service Quality	Accepted
Hypothesis 10 **Commitment** dimension of services supply chain orientation is positively associated with **Output Quality** dimension of Industrial Service Quality	Accepted

Table 37 (Continued)

Hyptheses	Result
Hypothesis 11 **Cooperative Norms** dimension of services supply chain orientation is positively associated with **Potential Quality** dimension of Industrial Service Quality	Rejected
Hypothesis 12 **Cooperative Norms** dimension of services supply chain orientation is positively associated with **Hard Process Quality** dimension of Industrial Service Quality	Accepted
Hypothesis 13 **Cooperative Norms** dimension of services supply chain orientation is positively associated with **Soft Process Quality** dimension of Industrial Service Quality	Accepted
Hypothesis 14 **Cooperative Norms** dimension of services supply chain orientation is positively associated with **Output Quality** dimension of Industrial Service Quality	Accepted
Hypothesis 15 **Dependence** dimension of services supply chain orientation is positively associated with **Potential Quality** dimension of Industrial Service Quality	Accepted
Hypothesis 16 **Dependence** dimension of services supply chain orientation is positively associated with **Hard Process Quality** dimension of Industrial Service Quality	Accepted
Hypothesis 17 **Dependence** dimension of services supply chain orientation is positively associated with **Soft Process Quality** dimension of Industrial Service Quality	Accepted
Hypothesis 18 **Dependence** dimension of services supply chain orientation is positively associated with **Output Quality** dimension of Industrial Service Quality	Accepted
Hypothesis 19 **Organizational Compatibility** dimension of services supply chain orientation is positively associated with **Potential Quality** dimension of Industrial Service Quality	Rejected
Hypothesis 20 **Organizational Compatibility** dimension of services supply chain orientation is positively associated with **Hard Process Quality** dimension of Industrial Service Quality	Rejected

Table 37 (Continued)

Hyptheses	Result
Hypothesis 21 **Organizational Compatibility** dimension of services supply chain orientation is positively associated with **Soft Process Quality** dimension of Industrial Service Quality	Rejected
Hypothesis 22 **Organizational Compatibility** dimension of services supply chain orientation is positively associated with **Output Quality** dimension of Industrial Service Quality	Rejected
Hypothesis 23 **Top Management Support** dimension of services supply chain orientation is positively associated with **Potential Quality** dimension of Industrial Service Quality	Rejected
Hypothesis 24 **Top Management Support** dimension of services supply chain orientation is positively associated with **Hard Process Quality** dimension of Industrial Service Quality	Accepted
Hypothesis 25 **Top Management Support** dimension of services supply chain orientation is positively associated with **Soft Process Quality** dimension of Industrial Service Quality	Accepted
Hypothesis 26 **Top Management Support** dimension of services supply chain orientation is positively associated with **Output Quality** dimension of Industrial Service Quality	Accepted

The next chapter is presented based on the on the result of the statistical analyses in this chapter. The next chapter mainly presents the discussion of the study including the conclusion, limitations, implications and contributions of the study.

CHAPTER 5

DISCUSSION

This chapter provides a discussion of the contribution of this thesis. Firstly, a conclusion regarding the research questions is presented in this chapter. Secondly, the theoretical and managerial contributions are exhibited. Finally, the limitations of the study and recommendations for future research are presented.

5.1. CONCLUSIONS TO THE STUDY

The importance and purposes of this study were determined due to the existing literature gaps. Therefore, the research is emphasized on mainly two literature gaps in services supply chain orientation and industrial service quality. Also, this research aimed to find an empirical support for the relationship between services supply chain orientation and perceived industrial service quality. Beside this major relationship, determining the predictors of industrial service quality was also intended. Furthermore, the relationships between several determinants of services supply chain orientation and industrial service quality were

aimed to be examined. In accordance with these purposes, the research questions and research hypotheses were determined. The findings of the hypotheses testing were presented in the previous chapters. Based on the findings, discussions of the statistical findings are as follows.

5.1.1. CONCLUSIONS TO RESEARCH QUESTION ONE

First research question, *"Is there a link between the level of buyers' services supply chain orientation and buyers' perceived industrial service quality of the service provider?"*, emphasizes on the association between services supply chain orientation and industrial service quality. In order to find an answer to this research question, hypothesis 1 was developed.

As the findings clearly illustrate, there is an association between services supply chain orientation and service buyers' perceived industrial service quality of the service provider. In general, it is safe to say that the main relationship that is proposed in this research was empirically supported. The results reveal that, if the service buyer's supply chain orientation level is high, the buyer's perceived service quality level of service provider will also be high. On the contrary, if the service buyer's level of supply chain orientation is relatively low, the quality of the service provided by the supplier will be perceived as low. This conclusion implies that service supplier's level of supply chain

orientation also change parallel to the changes in service buyer's supply chain orientation and buyer's perceived service quality of the service supplier. This expectation is based on the current relationship on exchange relationships, supply chain management and accordingly supply chain orientation.

5.1.2. CONCLUSIONS TO RESEARCH QUESTION TWO

Second research question, *"To what extent do the supply chain orientation dimensions have an association with the dimensions of customer's perceived industrial service quality of the service provider?",* sought the extent of relationship between the determinants of two main variables of this research. Regarding to relationship between services supply chain orientation determinants including; trust, commitment, cooperative norms, dependence, organizational compatibility and top management support and the dimensions of industrial service quality that are; potential quality, hard process quality, soft process quality and output quality, hypotheses numbered between 3 and 26 were developed.

Findings imply that majority of the proposed relationship found an empirical support. On the other hand, findings also reveal a number of suggested relationships that could not be empirically supported. The relationships between variables which are not significant need future research to find out the reasons. According to the results, potential

quality dimension of the industrial service quality does not have a significant association with four dimensions of supply chain orientation which are trust, cooperative norms, organizational compatibility and top management support. Other interesting result is that organizational compatibility dimension of supply chain orientation does not have a significant association with any of the industrial service quality dimensions.

Potential quality dimension of Gounaris's (2005) INDSERV construct was firstly suggested by Bochove (1994) (cited in Gounaris 2005). The scale pertains to the search attributes of the service buyers to asses the service supplier's ability to perform the service before the relation has actually started. Also, the importance of potential quality dimension as well as the difficulty of its evaluation and its influence on the overall evaluation of the service offered by the provider was highlighted in the study. This may be thought as the reason of such a result of this research.

Potential quality dimension is included to this research due to a number of reasons. Firstly, one of the main aims of this research is to test the relationship between services supply chain orientation and several variables as well as the perceived industrial service quality as a whole. Therefore, all dimensions of industrial service quality should be included in the research. Also, the concept of supply chain orientation

requires long term relationship and/or an expectation of maintaining the existing relationship for a long time. Therefore, the potential quality dimension, which mainly tests the customer's evaluation of the provider's future service performance, is brought into the research. Findings imply that only commitment and dependence dimensions of supply chain orientation have associations with potential service quality.

According to the findings it can also be said that, organizational compatibility dimension of supply chain orientation has not a significant association with any of the industrial service quality dimensions. The previous studies showed that there exists organizational compatibility between two parties if both parties share similar operating philosophies and corporate cultures and if they have complementary goals and objectives (Bucklin and Sengupta 1993). Buyer's perception related to the service quality level of the service provider is not correlated to the buyer's perception of both parties' organizational compatibility. This result may be related to the buyer's level of knowledge about organizational compatibility items. For instance; the respondent may be well informed about the operating philosophies or goals of his/her company. However, it may not be possible for him/her to have an idea about the specific goals of the service providers. During the interviews, such a difficulty for the respondents was recognized.

5.1.3. CONCLUSIONS TO RESEARCH QUESTION THREE

Third research question, "*Can industrial service quality be predicted by the dimensions of supply chain orientation?"* aimed to discover the predictors of industrial service quality. Specifically, hypothesis 2 aimed to provide answers to this research question.

In general, the findings suggest that the industrial service quality may be predicted by a number of supply chain orientation determinants including; trust, commitment, dependence and organizational compatibility. According to the findings, trust contributes most and organizational compatibility contributes least to the level of perceived industrial quality.

Actually, it is not surprising that trust and commitment together act as predictors of perceived industrial service quality. The research showed that there is a strong and positive association between trust and commitment. Also, there exists empirical support for similar relation between these variables (e.g. Moorman *et al.,* 1992; Morgan and Hunt, 1994, Achrol, 1991; Morgan and Hunt 1994).

It should be noted that, although organizational compatibility predicts industrial service quality in a positive way, the correlations between organizational compatibility and each of the dimensions of industrial

service quality were not significant. Therefore, it is resulted that, organizational compatibility appears to contribute to the entire perceived industrial service quality. Due to this reason, more research is needed to determine the association and predictability relationship between organizational compatibility and industrial service quality as well as the dimensions of it. Also, after such a future research, the validity of the result might be provided.

According to the results of multiple regression analysis, the model proposed in this study has been revised (Figure 5). The new model explained in detail in the section that is titled as 'Contribution to Theory'.

5.2. CONTRIBUTIONS OF THE STUDY

In this section, contributions of this study to theory and practice are discussed in two following parts.

The main contributions of this study relate to (1) the conceptualization of notions of supply chain orientation in service context and perceived industrial service quality along the services supply chain, (2) the examination of the determinants of two main concepts within this relationship, (3) the development of an integrated model that examines

the role of relationship between services supply chain orientation and perceived industrial service quality of the service supplier, (4) the analysis of the relationship between each dimension of services supply chain orientation and industrial service quality.

5.2.1. CONTRIBUTIONS TO THEORY

This research makes several contributions to theory. First, it contributes to narrowing the literature gaps in the concepts of services supply chain management, services supply chain orientation and its relationship with perceived industrial service quality. By this study, two major concepts of marketing were brought together. Rich theory-based conceptualization of these concepts is based on a detailed review of existing literature. Due to the nature of the thesis subject, the literature review refers to existing literature from several disciplines including; marketing, logistics and management. Therefore, the theory built and tested in this thesis is a key contribution to both marketing and logistics because it bridged the philosophical gaps between marketing and logistics.

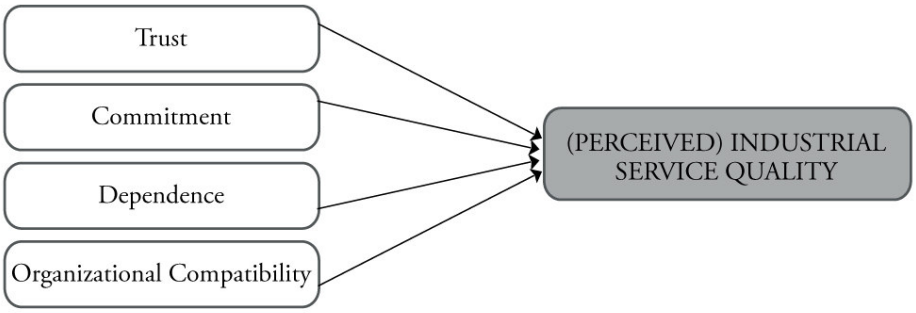
This thesis also, highlights a number of new terminologies and concepts in the literature. Thereby, the study clarifies the ambiguity in the meanings of some concepts such as services supply chain management and services supply chain orientation.

Also, the model estimation results provided support for the inclusion of the mentioned variables as well as the proposed relationships among the variables. The results of the model estimation provided support for a model that includes a relationship between service buyers' perceptions of their level of supply chain orientation and their perception on supplier's service quality level.

This research contributes to theory by the approach that the industrial service quality level can be predicted by the service supplier through using service buyer's trust, commitment, and dependence to the service supplier and his/her perception about both parties' organizational compatibility. Also, it was concluded that, there exists association between dimensions of supply chain orientation in services context and the dimensions of industrial service quality. According to the findings of the study, the proposed model is revised. The final model, Figure 5, highlights the verified relationship between several determinants of services supply chain orientation and industrial service quality.

This model illustrates the association between trust, commitment, dependence and organizational compatibility dimensions of supply chain orientation, which are also critical for supply chain management, and industrial service quality.

Figure 5: Final Model



The academic significance of this thesis lies not only in results that were statistically significant but also in those areas that were not. The lack of significance for the relation between top management support and dependence dimensions of supply chain orientation and industrial service quality has probably more academic interest.

This study and these contributions provide a basis for future research. The need for future research is presented in detail in the section titled as 'Limitations and Recommendations for Future Research".

5.2.2. CONTRIBUTIONS TO PRACTICE

The findings of this research have considerable implications for the practitioners. This research is important for service purchasing managers and/or the top managers who make decisions on purchasing

services from outside the companies. However, this study is more significant for the managers of service providers. This is due to the fact that, the managers of service providers aim to increase their service quality owning to the potential benefits of providing high level of quality.

A goal of this research was to provide a framework to enable managers of service buyer and supplier companies to understand the potential values of being a part of a supply chain oriented relationship especially to increase the industrial service quality. Therefore, the findings of this study will guide to the practitioners to search for the ways to increase the levels of both services supply chain orientation and perceived industrial service quality. Practitioners should keep in mind that there are several potential benefits for all entities performing in a particular services supply chain.

From a practitioner perspective, when working with a service supplier and/or provider, the managers should try to be involved more supply chain oriented relationships in order to increase the level of provider's service quality. To increase the service providers' level of service quality is a critical output of an effective services supply chain management as well. If the service quality along the services supply chain may be improved, customer satisfaction will be increased along the supply chain, which is another critical aim of a supply chain management. Such

a fact implies that the satisfaction of all industrial customers in a supply chain will provide the satisfaction of end-users, which is a shared focal aim of different entities in a supply chain. Therefore, the managers in service businesses should pay attention to the relations between supply chain orientation within a firm and perceived industrial service quality as reported in this thesis.

5.3. LIMITATIONS OF THE STUDY AND RECOMMENDATIONS FOR FUTURE RESEARCH

There are a number of limitations of this research that should be discussed. One limitation is that, in all cases, this research was conducted from the perspective of buying firm. This perspective might have biased the answers that were given to the research questions and the findings. Future research might consider input form the suppliers involved in the service exchange relationship. Dyadic research on the service buyer-supplier relationship may provide additional insights about the research topic.

Upon completing this research, one of the next steps to take the finding of survey research and previous literature, and conduct a case study with some selected service providers and their service suppliers. While conducting the survey with service providers, they are asked if they would like to be a part of a future case study. Therefore, the related data

might be used during the service provider selection process. The implications to the suppliers will provide a clearer idea especially about the supply chain orientation of both parties.

Also, the context of this study, the relationship between service supplier and service buyer, limits its potential generalizability for all supply chain relationships. Extending the study to other supply chain relationships (e.g. service supplier, service distributor) is definitely required.

This research focused on only one service sector, tourism. This causes the lack of opportunity to generalize the results into the whole service industry. Similarly, the sampling frame was determined based on the regional distinction in Turkey.

Another area for future research is to analyze the proposed relationship in other service sectors. Due to the distinctive characteristics of different service sectors, the results of the analysis may differ. After a number of implications in different sectors, there will be an opportunity to generalize the results. In such a case, a more significant contribution will be provided to the services supply chain literature.

Another limitation is the national context of the study. Therefore, the research might be enlarged to the different regions of Turkey as well as

different countries. A number of studies have shown that the perceived service quality is culture-specific (e.g. Cronin and Taylor, 1992). Thereby, it will be a more appropriate to generalize these findings beyond the sampling frame.

As mentioned in the previous chapters, survey method was used to collect the data both in the pretest and the final test. There are limitations of utilizing the survey method. For example, the measurement is based on respondents' perceptual evaluation and, therefore the quality of the data might change dramatically, depending upon the degree of the accuracy and impartially for respondents' perceptions.

In addition, a survey method requires researchers to limit the length of questionnaire and the time frame of investigation to maximize the degree of respondents' participation and cooperativeness, and minimize respondents' fatigue. Thus, this research is called for with different sets of target respondents to reconfirm the findings of this study in the population.

Since service buyer's perception about both of the major variables of this study, supply chain orientation and service quality, may be developed after a period of relation, conducting a longitudinal study is required to validate the findings of this study.

Also, the model of this study may be enhanced by the future research in the determinants of two main variables which are supply chain orientation and industrial service quality. Therefore, expanding or modifying the determinants of the constructs that define supply chain orientation and industrial service quality will lead to an enlarged model with the future study. The measures of industrial service quality have been recently constructed. Thus, identification of quality indicators should be reexamined before the future research.

The model also might be improved by including services supply chain management. In such a model, the relationship between the services supply chain orientation, the industrial service quality, which is also a required output of services supply chain management, as well as the other potential outputs should be investigated.

As depicted in Appendix 3 the correlations between dimensions of supply chain orientation were tested as well. A similar statistical test was conducted for the dimensions of industrial service quality. Based on the data in Appendix 4, a future research might explore these relationships.

For these reasons, additional research should be conducted in the relationship between services supply chain orientation and the

perceived service quality. These two concepts afford much opportunity for research in these areas.

APPENDICES

Appendix 1: Questionnaire-Turkish Version

Adınız Soyadınız					
İşletmedeki pozisyonunuz					
Bu posizyonda kalma süreniz					
Satın alma kararlarını etkileme dereceniz	☐ Düşük	☐ Orta	☐ Yüksek		
Firmanızdaki çalışan sayısı	☐ 1-50	☐ 51-150	☐ 151-500	☐ 501 ve üzeri	
Kaç yıldır sektörünüzde hizmet veriyorsunuz?	☐ 0-5	☐ 6-9	☐ 10 ve üzeri		
Firmanızın ismi					
Size ulaşabileceğimiz e-mail adresiniz:					

Bu ankette yer alan sorular firmanızın tedarikçisi olan bir firmadan almakta olduğunuz hizmet hakkındadır. Lütfen öncelikle, size hizmet sağlayan tedarikçileri düşününüz ve en sıklıkla hizmet aldığınız tedarikçiyi belirleyiniz. Aşağıdaki soruların tümünü, belirlemiş olduğunuz tedarikçinizi düşünerek cevaplayınız.

Belirlemiş olduğunuz, size hizmet tedarik eden firmanın ismini yazınız	
Hizmet tedarikçinizin faaliyette bulunduğu sektör	

Aşağıda size hizmet tedarik eden firma hakkında görüşleriniz sorulmaktadır. Aşağıda yer alan her ifade için "Kesinlikle Katılmıyorum"dan "Kesinlikle Katılıyorum"a kadar cevap seçenekleri bulunmaktadır. Lütfen aşağıdaki ifadeleri, bu seçenekler dahilinde değerlendiriniz.

	Kesinlikle Katılmıyorum	Katılmıyorum	Ne Katılıyorum ne Katılmıyorum	Katılıyorum	Tamamen Katılıyorum
1. Tedarikçimiz bizimle ilişkisinde açık sözlü ve samimi davranır	☐	☐	☐	☐	☐
2. Tedarikçimiz tarafından verilen sözlere güvenilir	☐	☐	☐	☐	☐
3. Tedarikçimiz verdiği hizmet konusunda bilgilidir	☐	☐	☐	☐	☐
4. Tedarikçimiz bizim durumumuzu anlamakta zorluk çeker	☐	☐	☐	☐	☐
5. Tedarikçimiz gerçek olmayan iddialarda bulunmaz	☐	☐	☐	☐	☐
6. Tedarikçimiz bizimle anlaşmaya açık değildir	☐	☐	☐	☐	☐
7. Tedarikçimiz sorularımızı cevaplamakta zorlanır	☐	☐	☐	☐	☐
8. Mevcut şartların değişmesi durumunda bile, tedarikçimizin bize yardım ve destek sağlamaya istekli ve hazır olacağına inanırız	☐	☐	☐	☐	☐
9. Önemli kararlar alınırken tedarikçimiz bizim menfaatlerimizi de düşünür	☐	☐	☐	☐	☐
10. Tedarikçimizle sorunlarımızı paylaştığımızda, bize karşı anlayışlı olacaklarını biliriz	☐	☐	☐	☐	☐

11. Tedarikçimizin alacağı kararların ve yapacaklarının bizi nasıl etkileyeceğini gelecekte de göz önünde bulunduracağına inanırız	☐	☐	☐	☐	☐
12. Bizim için önemli olan konulara karşılaştığımızda, tedarikçimizin desteğine güvenebiliriz	☐	☐	☐	☐	☐
13. Dışardaki kişiler şirketi eleştirdiğinde, tedarikçimizi savunuruz	☐	☐	☐	☐	☐
14. Mevcut tedarikçimizi değiştirmek veya mevcut tedarikçi listemize eklemek için sürekli olarak alternatif bir tedarikçi araştırıyoruz	☐	☐	☐	☐	☐
15. Başka bir tedarikçi bize daha iyi hizmet sunarsa; bu, mevcut tedarikçimizi kaybedeceğimiz anlamına gelse bile diğer tedarikçi ile çalışmaya başlarız	☐	☐	☐	☐	☐
16. Tedarikçimiz bizi sıkıntıya sokacak hatalar yaptığında, sabırlı davranırız	☐	☐	☐	☐	☐
17. Tedarikçimizin satışlarının artışını sağlamak amacıyla gerek duyulan çalışanlarımızı ve kaynaklarımızı tedarikçimize tahsis etmeye hazırızdır	☐	☐	☐	☐	☐
18. Tedarikçimiz ile ilişkimize devam etmek isteriz çünkü onlarla ilişkimizden gerçekten memnunuz	☐	☐	☐	☐	☐

19. Tedarikçimiz hakkındaki olumlu duygu ve düşüncelerimiz onlarla çalışmaya devam etmemizin temel nedenlerinden biridir	☐	☐	☐	☐	☐
20. Tedarikçilerimiz ile ilişkimizde hatanın kimin olduğuna bakılmaksınız, çıkan problemlerin ortak sorumluluklarımız olduğunu düşünürüz	☐	☐	☐	☐	☐
21. Tedarikçimiz bizim, biz de tedarikçimizin karlılığını göz önünde bulundururuz	☐	☐	☐	☐	☐
22. Tedarikçimizle ilişkimizde her iki taraf da sahip olabileceği daha avantajlı pazarlık pozisyonundan yaralanmaya çalışmaz	☐	☐	☐	☐	☐
23. Her iki taraf da işbirliği içinde değişiklikler yapmaya isteklidir	☐	☐	☐	☐	☐
24. Başarılı olabilmek için tedarikçimizle birlikte hareket etmeliyiz	☐	☐	☐	☐	☐
25. Birbirimize karşı borçlu olmayı çok önemsemeyiz	☐	☐	☐	☐	☐
26. Tedarikçimize bağımlıyız	☐	☐	☐	☐	☐
27.Tedarikçimizden aldığımız hizmetin en iyi şekilde bu firma tarafından gerçekleştirildiğini düşünmekteyiz	☐	☐	☐	☐	☐
28. Tedarikçimizin yerine başka bir firma bulmak çok zordur	☐	☐	☐	☐	☐

29. Tedarikçimizi kaybetmek bizim açımızdan son derece maliyetli olacaktır	☐	☐	☐	☐	☐
30. Firmamızın amaç ve hedefleri tedarikçimizin amaç ve hedefleriyle tutarlıdır	☐	☐	☐	☐	☐
31. Tedarikçimiz ile benzer yönetim felsefelerine sahibiz	☐	☐	☐	☐	☐
32. Tedarikçimizde ve firmamızda benzer şirket içi uygulamalar mevcuttur	☐	☐	☐	☐	☐
33. Firmamızdaki üst yöneticiler çalışanlara sık sık çalıştıkları birimlerin başarılı olabilmesi için pazar şartlarına uyum sağlamaası gerektiğini söylerler	☐	☐	☐	☐	☐
34. Firmamızdaki üst yöneticiler çalışanlara, rakiplerimizin faaliyetleri konusunda hassas olmalarını sık sık hatırlatırlar	☐	☐	☐	☐	☐
35. Firmamızdaki üst yöneticiler çalışanlara, müşterilerin gelecekteki taleplerini karşılayabilmek için çabalarını daha da arttırmak zorunda olduklarını sık sık hatırlatırlar	☐	☐	☐	☐	☐
36. Firmamızdaki üst yönetime göre, müşteriye hizmet vermek birimimizin yaptığı en önemli iştir	☐	☐	☐	☐	☐

37. Tedarikçimiz firmamızın ihtiyacı olan hizmeti eksiksiz sağlamaktadır	☐	☐	☐	☐	☐
38. Tedarikçimiz gerekli personele sahiptir	☐	☐	☐	☐	☐
39. Tedarikçimiz gerekli tesis ve donanıma sahiptir	☐	☐	☐	☐	☐
40. Tedarikçimiz gerekli yönetim felsefesine sahiptir	☐	☐	☐	☐	☐
41. Tedarikçimizin personel devir hızı düşüktür	☐	☐	☐	☐	☐
42. Tedarikçimiz iş ortaklarıyla birlikte çalışır.	☐	☐	☐	☐	☐
43. Tedarikçimiz önceden belirlenmiş terminlere göre hareket eder	☐	☐	☐	☐	☐
44. Tedarikçimiz mali anlaşmalara ve bütçelere uygun olarak faaliyet gösterir	☐	☐	☐	☐	☐
45. Tedarikçimiz son teslimat zamanlarına uyar	☐	☐	☐	☐	☐
46. Tedarikçimiz detaylara önem verir	☐	☐	☐	☐	☐
47. Tedarikçimiz ihtiyaçlarımızı anlar	☐	☐	☐	☐	☐
48.Tedarikçimizden çok memnunuz	☐	☐	☐	☐	☐
49. Tedarikçimiz sorunlarımızla ilgilenir	☐	☐	☐	☐	☐
50. Tedarikçimiz önerilere ve yeni fikirlere açıktır	☐	☐	☐	☐	☐
51. Tedarikçimiz uyumlu bir kişiliğe sahiptir	☐	☐	☐	☐	☐
52. Tedarikçimiz gerektiğinde münakaşa eder	☐	☐	☐	☐	☐

53. Tedarikçimiz bizim ihtiyaçlarımızla ilgilenir ve ihtiyaçlarımızı gözetir	☐	☐	☐	☐	☐
54. Tedarikçimiz hedeflerine ulaşır	☐	☐	☐	☐	☐
55. Tedarikçimizin saygın bir imajı vardır	☐	☐	☐	☐	☐
56. Tedarikçimiz satışlarımızın artmasına ve imajımızın iyileşmesine katkıda bulunur	☐	☐	☐	☐	☐
57. Tedarikçimiz bize sunduğu teklifler konusunda oldukça yaratıcıdır	☐	☐	☐	☐	☐
58. Tedarikçimiz firmamızın stratejisine uygun hareket eder	☐	☐	☐	☐	☐

Tedarikçiniz ile ilişkinizin süresi (yıl)	
Hizmet satın aldığınız toplam tedarikçi sayısı	

Araştırmanın devamında firmanızda bir vaka çalışması yapılmasını ister misiniz? ☐ Evet ☐ Hayır

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Appendix 2: Questionnaire-English Version

Your Name					
Your Job Title					
For how long you occupied this positiob?					
Your level of influence on purchasing decisions	☐ Low	☐ Moderate	☐ High		
Number of employees in your company	☐ 1-50	☐ 51-150	☐ 151-500	☐ 501 and more	
Years of experience in the sector	☐ 0-5	☐ 6-9	☐ 10 and more		
Company name					
e-mail address					

The following questions are about the services that you purchase from your service suppliers. When completing this survey please focus on a specific service supplier with which you currently have a relationship and from which you frequently purchase service.

The name of your service supplier	
Service industry in which your supplier operates	

The following are some statements about your interactions with your service supplier. Please indicate your perceptions in regard to the following statements concerning the chosen third party.

	Completely Disagree	Disagree	Neither Agree Nor Disagree	Agree	Completely Agree
1. Our supplier has been frank in dealing with us	☐	☐	☐	☐	☐
2. Promises made by this supplier are reliable.	☐	☐	☐	☐	☐

3. Our supplier is knowledgeable regarding his/her services	☐	☐	☐	☐	☐
4. Our supplier has problems understanding our position	☐	☐	☐	☐	☐
5. Our supplier does not make false claims.	☐	☐	☐	☐	☐
6. Our supplier is not open in dealing with us	☐	☐	☐	☐	☐
7. Our supplier has problems answering our questions	☐	☐	☐	☐	☐
8. Through circumstances change, we believe that our supplier will be ready and willing to offer us assistance and support	☐	☐	☐	☐	☐
9. When making important decisions, our supplier is concerned about our welfare	☐	☐	☐	☐	☐
10. When we share our problems with this supplier, we know that they will respond with understanding	☐	☐	☐	☐	☐
11. In the future we can count on our supplier to consider how its decisions and actions will affect us	☐	☐	☐	☐	☐

12. When it comes to things which are important to us, we can depend on our supplier's support					
13. We defend our supplier when outsiders criticize the company					
14. We are continually on the look out for another supplier to replace or to add to our current supplier					
15. If another supplier offered us to better coverage, we would most certainly take them on, even if it meant dropping this supplier					
16. We are patient with our supplier when they make mistakes that cause us trouble					
17. We are willing to dedicate whatever people and resources it takes to grow sales for our supplier					
18. We want to remain a member of the supplier's network, because we genuinely enjoy our relationship with them					
19. Our positive feelings towards the supplier are a major reason we continue working with them					

20. No matter who is at fault, problems are joint responsibilities.	☐	☐	☐	☐	☐
21. Both sides are concerned about other's profitability.	☐	☐	☐	☐	☐
22. One party will not take advantage of a strong bargaining position.	☐	☐	☐	☐	☐
23. Both sides are willing to make cooperative changes.	☐	☐	☐	☐	☐
24. We must work together with our supplier to be successful.	☐	☐	☐	☐	☐
25. We do not mind owing each other	☐	☐	☐	☐	☐
26. We are dependent to our supplier	☐	☐	☐	☐	☐
27. We believe that the service provided by this supplier is believed as the best	☐	☐	☐	☐	☐
28. Our supplier would be difficult to replace	☐	☐	☐	☐	☐
29. Our supplier would be costly to lose	☐	☐	☐	☐	☐
30. Our firm's goals and objectives are consistent with the our supplier.	☐	☐	☐	☐	☐
31. Our CEO and the CEO of our supplier have similar operating philosophies.	☐	☐	☐	☐	☐
32. Our firm and the supplier firm have similar internal practices.	☐	☐	☐	☐	☐

33. Top managers here; repeatedly tell employees that this business unit's survival depends on its adapting to market trends.	☐	☐	☐	☐	☐
34. Top managers in this company, often tell employees to be sensitive to the activities of our competitors.	☐	☐	☐	☐	☐
35. Top managers of this company keep telling people around here that they must gear up now to meet customers' future needs	☐	☐	☐	☐	☐
36. According to top managers here, serving customers is the most important thing our business unit does	☐	☐	☐	☐	☐
37. Our supplier offers full service	☐	☐	☐	☐	☐
38. Our supplier has required personnel	☐	☐	☐	☐	☐
39. Our supplier has required facilities	☐	☐	☐	☐	☐
40. Our supplier has required management philosophy	☐	☐	☐	☐	☐
41. Our supplier has a low personnel turn-over	☐	☐	☐	☐	☐
42. Our supplier uses network of partners and associates	☐	☐	☐	☐	☐

43. Our supplier keeps time schedules	☐	☐	☐	☐	☐
44. Our supplier honors financial agreements and stays in budgets	☐	☐	☐	☐	☐
45. Our supplier meets deadline	☐	☐	☐	☐	☐
46. Our supplier looks at details	☐	☐	☐	☐	☐
47. Our supplier understands our needs	☐	☐	☐	☐	☐
48. Our supplier is accepted enthusiastically	☐	☐	☐	☐	☐
49. Our supplier listens to our problems	☐	☐	☐	☐	☐
50. Our supplier is open to suggestions/ideas	☐	☐	☐	☐	☐
51. Our supplier has a pleasant personality	☐	☐	☐	☐	☐
52. Our supplier argues if necessary	☐	☐	☐	☐	☐
53. Our supplier looks after our needs	☐	☐	☐	☐	☐
54. Our supplier reaches objectives	☐	☐	☐	☐	☐
55. Our supplier has a notable effect	☐	☐	☐	☐	☐
56. Our supplier contributes to our sales and image	☐	☐	☐	☐	☐
57. Our supplier is creative in terms of its offerings	☐	☐	☐	☐	☐
58. Our supplier's strategy is consistent with our strategy	☐	☐	☐	☐	☐

Years of relationship with your supplier

Would you like to participate to a case study which will be a part of future study? ☐ Yes ☐ No

Appendix 3: Correlations between Dimensions of Supply Chain Orientation

		Supply Chain Orient.	Trust	Commit.	Coop. Norms	Depend.	Org. Comp.	Top Mgmt. Support
Supply Chain Orient.	Pearson Correlation	1						
	Sig. (2-tailed)	.						
	N	39						
Trust	Pearson Correlation	.733**	1					
	Sig. (2-tailed)	.000	.					
	N	39	39					
Commit.	Pearson Correlation	.686**	.351*	1				
	Sig. (2-tailed)	.000	.029	.				
	N	39	39	39				
Coop. Norms	Pearson Correlation	.706**	.548**	.360*	1			
	Sig. (2-tailed)	.000	.000	.024	.			
	N	39	39	39	39			
Depend.	Pearson Correlation	.611**	.378*	.505**	.357*	1		
	Sig. (2-tailed)	.000	.018	.001	.026	.		
	N	39	39	39	39	39		
Org. Comp.	Pearson Correlation	.194	-.110	.054	-.117	- .134	1	
	Sig. (2-tailed)	.238	.505	.746	.477	.416	.	
	N	39	39	39	39	39	39	
Top Mgmt. Support	Pearson Correlation	.642**	.205	.239	.396*	.247	.248	1
	Sig. (2-tailed)	.000	.210	.142	.013	.130	.128	.
	N	39	39	39	39	39	39	39

** Correlation is significant ate the .01 level (2-tailed)
* Correlation is significant at the .05 level (2-tailed)

Appendix 4: Correlations between Dimensions of Industrial Service Quality

		Ind. Service Quality	Potential Quality	Hard Process Quality	Soft Process Quality	Output Quality
Ind. Service Quality	Pearson Correlation	1				
	Sig. (2-tailed)	.				
	N	39				
Potential Quality	Pearson Correlation	.638**	1			
	Sig. (2-tailed)	.000	.			
	N	39	39			
Hard Process Quality	Pearson Correlation	.891**	.288	1		
	Sig. (2-tailed)	.000	.076	.		
	N	39	39	39		
Soft Process Quality	Pearson Correlation	.916**	.337*	.906**	1	
	Sig. (2-tailed)	.000	.036	.000	.	
	N	39	39	39	39	
Output Quality	Pearson Correlation	.950**	.708**	.755**	.794**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.
	N	39	39	39	39	39

** Correlation is significant ate the .01 level (2-tailed)
* Correlation is significant at the .05 level (2-tailed)

REFERENCES

Achrol, Ravi S. 1991. “Evolution of the Marketing Organization: New Forms for Turbulent Environments”, Journal of Marketing, 55 (4), 77-93.

Achrol, Ravi S. 1997. “Changes in the Theory Of Interorganizational Relations In Marketing: Toward a Network Paradigm”, *Academy of Marketing Science Journal*, 25, 1, 56-71.

Allen, Sandy, Chandrashekar, Ashok. 2000. “Outsourcing Services: The Contract is Just the Beginning”, *Business Horizons*, March-April, 25–34.

Anderson, Erin, Weitz, Barton. 1992. “The Use of Pledges to Build and Sustain Commitment in Distribution Channels”*, Journal of Marketing Research,* 29, 18-34.

Anderson, James C., Narus, James A. 1990. “A Model of Distributor Firm and Manufacturer Firm Working Partnerships”**,** *Journal of Marketing*, 54 (1), 42-58.

Armistead, Colin, Clark, Graham. 1993. “Resource Activity Mapping: The Value Chain in Service Operations Strategy”, *Service Industries Journal*, 13(4), 221-239.

Ashby, Ross W. 1964. *Introduction to Cybernetics,* London: Routledge Kegan & Paul.

Athanassopoulos, Antreas, Spiros Gounaris, and Vlassis Stathakopoulos. 2001. “Behavioural Responses to Customer Satisfaction: An Empirical Study”, *European Journal of Marketing,* 35(5/6), 687-707.

Babakus, Emin, Boller, Gregory. 1992. “An Empirical Assessment of the SERVQUAL Scale”, *Journal of Business Research*, *24*(3), 253-268.

Babakus, Emin., Mangold, W. Glynn. 1992."Adapting the SERVQUAL Scale to Hospital Services: An Empirical Investigation", *Health Service Research*, 26(6),767-86.

Ballou, Ronald. H. 1992. *Business Logistics Management*. Englewood Cliffs, London: Prentice-Hall.

Baltacioglu, Tuncdan et al. 2007. A New Framework for Services Supply Chains, *The Service Industries Journal*, 27(2), 105 - 124.

Beamon, Benita M. 1998. “Performance, Reliability and Performability of Material Handling Systems”, *International Journal of Production Research*, 2(36), 377-393.

Beamon, Benita M.1999. "Measuring Supply Chain Performance", *International Journal of Operations & Production Management*, 19(3), 275-92.

Berkley, Blair J., Gupta, Amit.1994. “Improving Service Quality with Information Technology”, *International Journal of Information Management*, 14, 109-21.

Bienstock, Carol C., John T. Mentzer., and Monroe M. Bird. 1997. “Measuring Physical Distribution Service Quality”, *Journal of the Academy of Marketing Science*, 25, 31–44.

Blackwell, Roger.D. 1997. *From Mind to Market: Reinventing the Retail Supply Chain*, New York: Harper Business.

Bowersox, Donald J., Closs, David J. 1996. *Logistical Management: The Integrated Supply Chain Process*, New York: McGraw-Hill.

Brensinger, Donald P., Lambert, Douglas M. 1990. Can the SERVQUAL Scale be Generalized to Business-to-Business Services", *Knowledge Development in Marketing, AMA's Summer Educator's Conference Proceedings*, American Marketing Association, Chicago, IL, 289.

Broderick, Anne J., Vachirapornpuk, Supattra. 2002. “Service Quality in Internet Banking: The Importance of Customer Role”, *Marketing Intelligence & Planning*, 20 (6), 327-35.

Brogowicz, Andrew A., Linda M. Delene, and David M. Lyth. 1990. “A Synthesised Service Quality Model with Managerial Implications”, *International Journal of Service Industry Management*, 1(1), 27-44.

Broh, Robert A. 1982**.** *Managing Quality for Higher Profits.* New York: Mc-Graw Hill.

Brown, Tom J. Gilbel A. Churchill, and J. Paul Peter. 1993. "Research Note: Improving the Measurement of Service Quality", *Journal of Retailing*, 69 (Spring), 127-39.

Bruhn, Manfred, Georgi, Dominik. 2006. *Services Marketing: Managing The Service Value Chain*, England: Prentice Hall.

Bucklin, Louis P., Sengupta, Sanjit. 1993. “Organizing Successful Co-Marketing Alliances”, *Journal of Marketing*, 57(2), 32-46.

Burgess, Kevin, Prakash J. Singh and Rana Koroglu. 2006. "Supply Chain Management: A Structured Literature Review and Implications for Future Research", *International Journal of Operations &Production Management*, 26(7), 703-29.

Cannon, Joseph P., Perreault Jr., William D. 1999. “Buyer-Seller Relationships in Business Markets”, *Journal of Marketing Research*, 36(4), 439-460.

Carman, James. M. 1990. “Consumer Perceptions of Service Quality: An Assessment of The SERVQUAL Dimensions”, *Journal of Retailing*, *66*(1), 33-55.

Carman, James M. 2000. “Patient Perceptions of Service Quality: Combining the Dimensions”, *The Journal of Services Marketing*, 14 (4), 337-352.

Caruana, Albert, Leyland F. Pitt, and Michael H. Morris.1995. “Are There Excellent Service Firms and Do They Perform Well”, *Services Industries Journal*, 15(3), 33-55.

Chen, Injazz J., Paulraj, Antony. 2004. “Towards a Theory of Supply Chain Management: The Constructs and Measurements”, *Journal of Operations Management*, 22(2), 119-150.

Christopher, Martin L. 1992. *Logistics and Supply Chain Management*, London: Pitman Publishing.

Christopher, Martin. 1998. *Logistics and Supply Chain Management*, London:Financial Times Prentice Hall.

Christopher, Martin, Ryals, Lynete. 1999. "Supply Chain Strategy: Its Impact on Shareholder Value", *International Journal of Logistics Management*, 10 (1), 1-10.

Churchill, Jr., Gilbert A. 1979 “A Paradigm for Developing Better Measures of Marketing Constructs”, *Journal of Marketing Research*, 16(1), 64-73.

Cook, Jack S., Kathy, DeBree and Amie Feroleto. 2002. “From Raw Materials to Customers: Supply Chain Management in the Service Industry”, *SAM Advanced Management Journal*, 66(4), 14-21.

Cooper Martha C., Douglas M. Lambert, and Janus D. Pagh. 1997. “Supply Chain Management: More Than a New Name for Logistics,"*The International Journal of Logistics Management*, 8(1). 1-14.

Cooper, Martha. C., Ellram, Lisa. M. 1993. “Characteristics of Supply Chain Management and the Implications for Purchasing and Logistics Strategy”, *The International Journal of Logistics Management*, 4(2), 13-24.

Cooper, Martha et al. 1997(b). "Meshing Multiple Alliances", *Journal of Business Logistics,* 18(1), 67-89.

Coyle, John J., Edward J. Bardi, and C. John Langley Jr. 2003. *The Management of Business Logistics: A Supply Chain Perspective*, 7th edition. South-Western: Thomson.

Cronin, Joseph J., Taylor, Steven. A. 1992. "Measuring Service Quality: A Reexamination and Extension", *Journal of Marketing*, 56, 55-68.

Croom, Simon, Pietro Romano, and Giaunakis Mihalis. 2000. "Supply Chain Management: An Analytical Framework for Critical Literature Review", *European Journal of Purchase and Supply Management,* 6, 67-83.

Dabholkar, Pratibha A. 1996. "Consumer Evaluations of New Technology Based Self-Service Operations: An Investigation of Alternative Models", *International Journal of Research in Marketing*, 13(1), 29-51.

Dabholkar, Pratibha A., David Shepherd, and Dayle I. Thorpe. 2000. "A Comprehensive Framework for Service Quality: An Investigation of Critical Conceptual And Measurement Issues Through a Longitudinal Study", *Journal of Retailing*, 76(2), 131-9.

Davis, Tom. 1993. *"Effective Supply Chain Management"*, Sloan Management Review, Summer, 35-46.

Day, David V., Lord, Robert G. 1988. “Executive Leadership and Organizational Performance: Suggestions for a New Theory and Methodology”, *Journal of Management*, 14(3), 453-464

Day, George S., Wensley, Robin. 1983. “Marketing Theory with a Strategic Orientation”, *Journal of Marketing*, 47(Fall), 79-88.

Dillman, Don. A. 2000. *Mail and Internet Surveys: The Tailored Design Method,* 2nd Ed. New York: John Wiley & Sons.

Durvasula Srinivas, Steven Lysonski and Subhash C. Mehta. 1999. "Testing the SERVQUAL Scale in the Business-To-Business Sector: The Case of Ocean Freight Shipping Service", *Journal of Services Marketing*, 13(2), 132-50.

Dwyer, F. Robert, Paul H. Schurr, and Sejo Oh. 1987. “Developing Buyer-Seller Relationships”, *Journal of Marketing*,51, 11-27.

Ellram, Lisa M. 1991. "A Managerial Guideline for the Development and Implementation of Purchasing Partnerships", *International Journal of Purchasing and Materials Management*, 27(3), 2-8.

Ellram Lisa M., Cooper, Martha C. 1990. “Supply Chain Management, Partnerships, and the Shipper? Third Party Relationship", *International Journal of Logistics Management*, 1(2). 1-10.

Ellram, Lisa M., Wendy Tate, and Corey Billington. 2004. "Understanding and Managing the Services Supply Chain", *The Journal of Supply Chain Management*, 40(4), 17-32.

Emerson, Richard M. 1962. "Power-Dependence Relations", *American Sociological Review*, 27(1), 31-41.

Fawcett, Stanley E., Magnan Gregory M. 2002. "The Rhetoric and Reality of Supply Chain Integration", *Journal of Physical Distribution & Logistics,* 32(5), 339-62.

Felton, Arthur P. 1959. "Making the Marketing Concept Work", *Harvard Business Review*,37(4),55-65.

Ferguson, Brad R. 2000. "Implementing Supply Chain Management", *Production and Inventory Management Journal*, Spring, 12-19.

Finn, David W., Charles W. Lamb Jr. 1991. "An Evaluation of The SERVQUAL Scales in a Retailing Setting", *Advances in Consumer Research*, *18*, 338-357.

Fitzsimmons James A. and Mona J. Fitzsimmons. 2006. *Service Management: Operations, Strategy, and Information Technology, 5th Ed. New York : McGraw Hill.*

Forrester J. Wright. 1961, *Industrial Dynamics*, Cambridge (MA): Productivity Press.

Frazier, Gary L. 1983. “On the Measurement of Interfirm Power in Channels of Distribution”, *Journal of Marketing Research*, 20(2), 158-166.

Frost, Frederick A., Kumar, Mukesh. 2000. “INTSERVQUAL: an internal adaptation of the GAP model in a large service organization”, *Journal of Services Marketing*, 14(5), 358-77.

Fugate, Brian, Sahin, Funda, Mentzer, John. T. 2006. “Supply Chain Management Coordination Mechanism”, *Journal of Business Logistics*, 27(2), 129-161.

Garvin, David A. 1988. *Managing Quality: The Strategic and Competitive Edge*. New York: The Free Press.

Gounaris, Spiros. 2005. “Measuring service quality in b2b services: an evaluation of the SERVQUAL scale *vis-à-vis* the INDSERV scale”, *The Journal of Services Marketing*, 19(6/7), 421-436.

Gregory T. Gundlach, Ravi, S. Achrol, and John T. Mentzer. 1995. "The Structure of Commitment in Exchange", *Journal of Marketing*, 59(1),78-92.

Grönroos, Christian.1984. “A Service Quality Model And Its Marketing Implications”, *European Journal of Marketing*, 18(4), 36-44.

Grönroos, Christian. 1990. *Service Management and Marketing: Managing the Moment of Truth in Service Competition*. USA: Lexington Books.

Gummesson, Evert. 1998. “Productivity, Quality and Relationship Marketing in Service Operations”, *International Journal of Contemporary Hospitality Management*, 10 (1), 4–15.

Gurau, Calin. 2003. “Tailoring E-Service Quality Through CRM”, *Managing Service Quality*, 13 (6), 520-31.

Halinen, Aino. 1994. "Exchange relationships in professional services", doctoral dissertation, Turku School of Economics and Business Administration, Turku.

Hallowell, Roger.1996. “The Relationships of Customer Satisfaction, Customer Loyalty, and Profitability: An Empirical Study”, *International Journal of Service Industry Management,* 7(4), 27 – 42.

Hambrick, Donald. C., Mason, Phyllis A. 1984. “Upper Echelons: The Organisation As a Reflection of Its Top Managers, *Academy of Management Review,* 9(2),193-206.

Handfield, Robert B., Nichols, Ernest L. 1998. "Introduction to Supply Chain Management", Prentice Hall.

Harrison Allan, Van Hoek Remko.2002. " *Logistics Management and Strategy* ",2nd Ed., Edinburg:Prentice Hall.

Haywood-Farmer J. 1988. "A Conceptual Model of Service Quality", *International Journal of Operations & Production Management*, 8(6). 19-29.

Heckert, Brooks, J., Miner, Robert, B. 1953. *Distribution Costs*, New York.

Heide Jan B., John George. 1992. "Do Norms Matter in Marketing Relationships?", *Journal of Marketing*, 56(2),32-44.

Hellman, Pasi. 1995. "Service Sector Alliances-Empirical Evidence From The Insurance Industry", *Journal of Professional Services Marketing*, 12(2), 81-94.

Houlihan, John. 1984. "Supply Chain Management", Proceedings of the 19th International Technical Conference of the British Production and Inventory Control Society, 101-110.

Houlihan, John B. 1988. "International Supply Chains: A New Approach," *Management Decision*, 26(3), 13-19.

Jaworski, Bernard J., Kohli, Ajay K. 1993. “Market Orientation: Antecedents And Consequences”, *Journal of Marketing*, 57(3), 53-70.

Jones, Thomas, Riley, Daniel. 1985. Using Inventory for Competitive Supply Chain Management. *International Journal of Physical Distribution and Materials Management,* 15(5), 16–26.

Kathawala, Yunus, Abdou, Khaled. 2003. “Supply Chain Evaluation in the Service Industry: A Framework Development Compared to Manufacturing”, *Managerial Auditing Journal*, 18 (2): 140-149.

Kemppainen Katariina, Vepsalainen Ari P.J.2003. “Trends in Industrial Supply Chains and Networks”, *International Journal of Physical Distribution and Logistics*,33(8), 701–719.

Kerlinger, Fred, N. 1992. Foundations of Behavioral Research, 3rd ed. Orando: F.L.; Harcourt Brace & Company.

Kotter, John, P. 1990. *A Force for Change: How Leadership Differs from Management*, Free Press, New York.

Krause, Daniel R .1999. “The Antecedents of Buying Firms' Efforts to Improve Suppliers”, *Journal of Operations Management*, 17(2), 205-224.

Kumar, Nirmalya, Lisa K., Scheer, and Jan-Benedict E. M. Steenkamp. 1995. "The Effects of Supplier Fairness on Vulnerable Resellers", *Journal of Marketing Research*, 32(1), 54-65.

Lalonde, Bernard, James, Masters. 1994. "Emerging Logistics Strategies: Blueprints for the Next Century", *International Journal of Physical Distribution & Logistics Management*, 24 (7), 35–47.

Lambert, Douglas M., Martha C. Cooper and Janus D. Pagh.1998(a). "Supply Chain Management, Implementation Issues and Research Opportunities", *International Journal of Logistics Management*, 9(2), 1-19.

Lambert, Douglas, James R Stock and Lisa M. Ellram. 1998(b). *Fundamentals of Logistics Management*, Boston; London, Irwin/McGraw-Hill.

Lamming, Richard C. 1996. "Squaring Lean Supply with Supply Chain Management: Lean Production and Work Organization", *International Journal of Operations and Production Management* ,16(2), 183–197.

Laseter, Tim, Oliver, Keith. 2003. "When Will Supply Chain Management Grow Up?", *Strategy+Business*, Fall/32.

Lasser, Walfried. M., Chris Manolis and Robert D. Winsor. 2000. "Service Quality Perspectives and Satisfaction in Private Banking", *Journal of Services Marketing*, 14(3), 244-71.

Lee, Hau. L., Billington, Corey. 1993. “Material Management in Decentralized Supply Chains”. *Operations Research*, 41(5), 835-847.

Lewis Howard T., James W. Culliton and Jack D. Steele.1956. *The Role of Air Freight in Physical Distribution*, Boston, Division of Research, Graduate School of Business Administration, Harvard University.

Lockamy III, Archie, McCormack, Kevin. 2004. “The Development of a Supply Chain Management Process Maturity Model Using The Concepts of Business Process Orientation”, *Supply Chain Management: An International Journal*, 9(4), 272-278.

Lovelock, Christopher, Wirtz Jochen. 2004. *Services Marketing,* 5th Edition, Upper Saddle River NJ: Prentice-Hall.

Lummus Rhonda R., Vokurka Robert 1999. “Defining Supply Chain Management: A Historical Perspective and Practical Guidelines” *Industrial Management & Data Systems* ,99/1, 11-17.

Lummus Rhonda R., Dennis W. Krumwiede, and Robert J. Vokurka, R. 2001. "The Relationship of Logistics to Supply Chain Management: Developing a Common Industry Definition", *Industrial Management & Data Systems*, 101(8), 426-32.

Lusch, Robert F., Brown, James, R. 1996. "Interdependency, Contracting and Relational Behavior in Market Channels", *Journal of Marketing*, 60(October),19-38.

Malhotra, Naresh K. 2004. *Marketing Research: An Applied Orientation*, 4th Ed., Englewood Cliffs, NJ: Prentice-Hall.

Marshall, Catherine, Rossman, Gretchen B. 1989.Designing Qualitative Research, Newbury Park, California: Sage.

Mattsson, Jan. 1992. "A Service Quality Model Based on Ideal Value Standard", *International Journal of Service Industry Management*, 3(3), 18-33.

McMullan, Amanda.1996. "Supply Chain Management Practices in Asia Pacific Today", *International Journal of Physical Distribution & Logistics Management*, 26(10), 79-95.

Mehta, Subhash C., Durvasula, Srinivas. 1998. "Relationships Between Servqual Dimensions and Organizational Performance in the Case of a Business-To-Business Service", *Journal of Business & Industrial Marketing*, 13(1), 40 – 53.

Mentzer, John T., Daniel J. Flint and John L. Kent. 1999. "Developing a Logistics Service Quality Scale," *Journal of Business Logistics*, 20 (1), 9-32.

Mentzer, John T. et al. 2001. "Defining Supply Chain Management", *Journal of Business Logistics*, 22(2), 1-25.

Min, Soonhong (2001), "A Market Orientation in Supply Chain Management," Doctor of Philosophy Degree Dissertation, Department of Marketing and Logistics, University of Tennessee, Knoxville.

Monczka, Robert M., Robert J. Trent and Thomas J. Callahan.1993. "Supply Base Strategies to Maximize Supplier Performance", *International Journal of Physical Distribution & Logistics Management*, 23(4).

Moorman, Christine, Gerald Zaltman and Rohit Deshpande.1992. "Relationships between Providers and Users of Market Research: The Dynamics of Trust within and between Organizations", *Journal of Marketing Research*, 29(3), 314-328.

Morgan, Neil A. 1990. "Corporate Legal Advice and Client Quality Perceptions", *Marketing Intelligence and Planning*, 8(6), pp.33–9.

Morgan, Robert M. and Hunt, Shelby D. 1994. "The Commitment-Trust Theory of Relationship Marketing" *Journal ofMarketing,* 58, 20-38.

Murphy Jr., Paul R, Wood Donald. 2004. *Contemporary Logistics*. 8th Ed. Upper Saddle River, NJ: Prentice-Hall.

Nassimbeni, Guido. 1998. "Network Structures and Co-Ordination Mechanisms: A Taxonomy", *International Journal of Operations and Production Management,* 18(6), 538–554.

Newman, Karin. 2001. “Interrogating SERVQUAL: A Critical Assessment of Service Quality Measurement in a High Street Retail Bank”, *International Journal of Bank Marketing*, 19(3), 126-139.

Nie, Winter D., Kellogg, Deborah, L. 1999. “How Professors of Operations Management View Service Operations?”, *Production and Operations Management Society Journal*, 8 (3), 339-355.

Nishiguchi, Toshihiro. 1994. *Strategic Industrial Sourcing: The Japanese Advantage*, Oxford: Oxford University Press.

Oh, Haemoon. 1999. “Service Quality, Customer Satisfaction and Customer Value: A Holistic Perspective”, *International Journal of Hospitality Management*, 18, 67-82.

O’Leary-Kell, S.W., Vokurka, Robert J. 1998. “The Empirical Assessment of Construct Validity”, Journal of Operations Management, 16 (4), 387-405.

Oliver, Richard L.1997. *Satisfaction: A Behavioral Perspective on the Consumer*, New York: Irwin/McGraw-Hill.

Parasuraman, A., Valarie A. Zeithaml and Leonard L. Berry. 1985. “A Conceptual Model of Service Quality and Its Implications for Future Research”, *Journal of Marketing*, 49 (3), 41-50.

Parasuraman, A., Valarie A. Zeithaml and Leonard L. Berry. 1988. "SERVQUAL: A Multiple-Item Scale for Measuring Customer Perceptions of Service Quality", *Journal of Retailing*, Spring 1988, 12-40.

Parasuraman, A., Valarie A. Zeithaml and Leonard L. Berry. 1991(a). "Refinement and Reassessment of the SERVQUAL Scale", *Journal of Retailing*, Winter, 420-50.

Parasuraman, A., Valarie A. Zeithaml and Leonard L. Berry. 1991(b). Perceived Service Quality as a Customer-Based Performance Measure: An Empirical Examination of Organizational Barriers Using an Extended Service Quality Model", *Human Resource Management*, Fall, 335-64.

Parasuraman, A., Valarie A. Zeithaml and Leonard L. Berry. 1994. Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Future Research", *Journal of Marketing*, January, 111-24.

Pfeffer, Jeffrey.1977. "The Ambiguity of Leadership", *The Academy of Management Review*, 2 (1) ,104-112.

Philip, George, Hazlett, Shirley-Ann.1997. "The Measurement of Service Quality: A New P-C-P Attributes Model", *International Journal of Quality & Reliability Management*, 14 (3), 260-86.

Pitt, Leyland, Michael H. Morris and Pierre Oosthuizen. 1996. "Expectations of Service Quality as an Industrial Market-Segmentation Variable", *Service Industries Journal*, 16 (1), 1-9.

Porter, Michael. 1985. The Competitive Advantage: Creating and Sustaining Superior Performance. N.Y.: Free Press.

Rafele, Carlo. 2004. "Logistic Service Measurement: A Reference Framework", *Journal of Manufacturing Technology Management*, 15 (3), 280 – 290.

Ross, David Frederick. 1998. Competing Through Supply Chain Management, New York: Chapman & Hall.

Rota, Karine, Caroline Thierry, and Gerard Bel.2002. Supply chain management: A supplier perspective. Production Planning & Control, 13(4), 370-380.

Rushton Alan, Phil Croucher and Peter Baker. 2000. *Handbook of Logistics and Distribution Management*, 2 nd Ed., London:Kogan Page.

Sampson, Scott E. 2000. "Customer-Supplier Duality and Bidirectional Supply Chains in Service Organizations", *International Journal of Service Industry Management*, 11, 348-364.

Santos, Jessica. 2003. “E-service Quality: A Model of Virtual Service Quality Dimensions”, *Managing Service Quality*, 13(3), 233-46.

Sasser, Earl, R. Paul Olsen and D. Daryl Wyckoff.1978. *Management of Service Operations*, Boston: Alyn and Bacon.

Seth, Nitin, S.G. Deshmukh, and Prem Vrat. 2005. “Service Quality Models: A Review”, *International Journal of Quality & Reliability Management*, 22(9), 913–949.

Shin, Hojung, David A. Collier, Darryl D. Wilson. 2000. “Supply Management Orientation and Supplier/Buyer Performance,” *Journal of Operations Management*, 18(3), 317-333.

Shostack, G. Lynn. 2001, “How to Design a Service”, *European Journal of Marketing*, 16,1,pp. 49-65.

Siguaw, Judy A., Penny M. Simpson and Thomas L. Baker. 1998. “Effects of Supplier Market Orientation on Distributor Market Orientation and the Channel Relationship: The Distributor Perspective”, *Journal of Marketing*, 62(3), 99-111.

Smith, John. M. 2002. *Logistics and the Out-bound Supply Chain: An Introduction for Engineers*. London: Kogan Page Science.

Stank, Theodore P., Beth R. Davis, and Brian S. Fugate. 2005. "A Strategic Framework for Differentiating SCM from Logistics", *Journal of Business Logistics*, 26(2), 27-46.

Stern Louis W., Reve Torger. 1980. “Distribution Channels as Political Economies: A Framework for Comparative Analysis”, *Journal of Marketing*, 44(3), 52-64.

Szmigin, Isabelle T.D. 1993. “Managing Quality in Business to Business Services”, *European Journal of Marketing*, 27(1),5-21.

Teas, R. Kenneth. 1993. “Expectations, Performance Evaluation, and Consumers' Perceptions Of Quality”, *Journal of Marketing*, 57(October), 18-34.

Tosti, Donald T., Jackson, Stephanie F. 1994. Organizational Alignment: How it Works and Why it Matters, *Training Magazine*, April, 58-64.

Von Bertalanffy, Ludwig. 1976. *General System Theory: Foundations, Development, Applications*, George Braziller.

Voss, Chris. 1992, "Applying Service Concepts in Manufacturing", *International Journal of Operations and Production Management*, 12 (4), 93-9.

Ward, Peter T., G. Keong Leong, and Kenneth K. Boyer. 1994. "Manufacturing Proactiveness and Performance", *Decision Sciences*, 25(3), 337-358.

Waters, Donald.2003. *Logistics. An Introduction to Supply Chain Management*, New York: Palgrave.

Webster Jr., Frederick E. 1992. "The Changing Role of Marketing in the Corporation", *Journal of Marketing*, 56(4), 1-17.

Youngdahl, William E., Loomba, Arvinder. *2000. "Service-Driven Global Supply Chains",* International Journal of Service Industry Management, *11(4), 329-347.*

Zao, Yushan S., Cavusgil, Tamer. 2006. "The Effect of Supplier's Market Orientation on Manufacturer's Trust", *Industrial Marketing Management*, 35, 405-414.

Zeithaml Valarie A., A. Parasuraman, and L. Leonard Berry.1990. *Delivering Quality Service - Balancing Customer Perceptions and Expectations,* New York: The Free Press.

Zeithaml, Valerie A., Bitner, Mary Jo.1996. *Services Marketing,* New York: McGraw-Hill.

Zeithaml, Valarie.A., Mary Jo Bitner, and Dwayne D. Gremler. 2006. *Services Marketing: Integrating Customer Focus across the Firm*, 4th Edition, NY: McGraw-Hill.

Zhu, Faye X., Walter J. Wymer and Injazz Chen. 2002. "IT-based services and service quality in consumer banking", *International Journal of Service Industry Management*, 13 (1), 69-90. 2002

Online resources:
http://cscmp.org/Downloads/Public/Resources/glossary03.pdf,
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