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OKAN UNIVERSITY

INSTITUTE OF SOCIAL SCIENCES

IMPACT OF UPSTREAM SUPPLY CHAIN MANAGEMENT PRACTICES AND E-COMMERCE SYSTEM SUCCESS FACTORS ON ORGANIZATIONAL PERFORMANCE IN E-TAILING

Gencay İNCESU

(112016038)

PHILOSOPHY OF DOCTORATE PROGRAM

IN MANAGEMENT AND ORGANIZATION

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İSTANBUL, June 2014

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* Oybirliği durumunda "düzeltme" veya "red" kararı veren jüri üyeleri ittifak ettikleri öneri ve görüşlerini burada kendilerine ayrılan yere yazarlar.

** Oyçokluğu veya oybirliği durumlarında "düzeltme" veya "red" kararı veren jüri üyeleri ittifak hali dışında kişisel öneri ve görüşlerini burada kendilerine ayrılan yere yazarlar.

Belirtilecek açıklamalar için ayrılan yerlerin yeterli olmaması durumunda formun arka yüzü veya ek bir kâğıt da kullanılabilir.

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LIST OF ABBREVIATIONS

ATM   : Automatic Tellers Machine

B2B   : Business to Business

B2C   : Business to Consumers

B2E   : Business to Employee

B2G   : Business to Government

BSC   : Balanced Scorecard

C2B   : Consumer to Business

C2C   : Consumers to Consumers

C2G   : Consumer to Government

CMMS   : Computerized Maintenance Management System

CPFR   : Collaborative Planning, Forecasting, and Replenishment

CRM   : Customer Relations Management

EC   : Electronic Commerce

ECR   : Efficient Consumer Response

Ed(s)   : Editor(s)

EDI   : Electronic Data Interchange

ERP   : Enterprise Resource Planning

ICTs   : Information and Communication Technologies

IS   : Information Systems

IT   : Information Technology

JIT   : Just in Time

JMI   : Joint- Managed Inventory

OLTP   : Online Transaction Processing

QR   : Quick Response

RFID   : Radio Frequency Identification Technology

SCC   : Supply Chain Council

SCM   : Supply Chain Management

SCOR   : Supply Chain Operations Reference Model

SSL   : Security Socket Layer

VMI   : Vendor Managed Inventory

WMS   : Warehouse Management System

WWW   : World Wide Web

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SUMMARY

The purpose of this dissertation is to investigate the relationship between upstream supply chain management practices (strategic supplier partnership, level of information sharing, quality of information sharing), e-commerce system success factors (user satisfaction, perceived usefulness, system quality, service quality, information quality) and organizational performance. The fieldwork of the research is conducted in e-tailing sector in Turkey. In this study self-administered questionnaire is used to collect the related data to establish the relationship between upstream supply chain management practices, e-commerce system success factors and organizational performance. Research is carried out with 131 representatives of organizations in e-tailing in Turkey. The results of this study show that strategic supplier partnership, level of information sharing, quality of information sharing, user satisfaction, perceived usefulness are the important dimensions and have significant positive impact on organizational performance. The results also show that system quality, service quality and information quality are the important dimensions and have significant positive impact on user satisfaction and perceived usefulness.

Keywords: Organizational Performance, E-Tailing, Supply Chain Management practices, E-Commerce System Success Factors

ÖZET

Bu tezin amacı tedarik yönlü tedarik zinciri yönetimi uygulamaları (stratejik tedarikçi işbirliği, paylaşılan bilginin seviyesi, paylaşılan bilginin kalitesi), elektronik ticaret sistem başarı faktörleri (kullanıcı memnuniyeti, algılanan fayda, sistem kalitesi, hizmet kalitesi, bilgi kalitesi) ve organizasyonların performansı arsındaki ilişkiyi araştırmaktır. Araştırma Türkiye'de elektronik perakendecilik sektöründe yapılmıştır. Bu çalışmada verileri toplamak ve tedarik yönlü tedarik zincir yönetimi uygulamaları, elektronik ticaret sistem başarı faktörleri ve organizasyon performansı arasındaki ilişkiyi ortaya çıkarmak için anket yöntemi kullanılmıştır. Araştırma Türkiye'de elektronik perakendecilik sektöründe 131 organizasyon temsilcisi üzerinde yapılmıştır. Sonuçlar gösteriyor ki; stratejik tedarikçi işbirliği, paylaşılan bilgi seviyesi, paylaşılan bilgi kalitesi, kullanıcı memnuniyeti ve algılanan fayda önemli boyutlardır ve organizasyon performansı üzerinde önemli pozitif etkisi vardır. Ayrıca sonuçlar gösteriyor ki; sistem kalitesi, hizmet kalitesi ve bilgi kalitesi önemli değişkenlerdir ve kullanıcı memnuniyeti ve algılanan fayda üzerinde önemli etkisi vardır.

Anahtar Kelimeler: Organizasyon Performansı, Elektronik Perakendecilik, Tedarik Zinciri Yönetimi uygulamalar, Elektronik Ticaret Sistem Başarı Faktörleri

1. INTRODUCTION

A retailer is a sales intermediary, a seller that operates between manufacturers and customers. Even though many manufacturers sell directly to consumers, they supplement their sales through wholesalers and retailers (a multichannel approach). In the physical world, retailing is done in stores (or factory outlets) that customers must visit in order to make a purchase. Companies that produce a large number of products must use retailers for efficient distribution. However, even if a company sells only a relatively few products, it still may need retailers to reach a large number of customers. Catalog sales offer companies and customers a relief from the constraints of space and time: Catalogs free a retailer from the need for a physical store from which to distribute products, and customers can browse catalogs on their own time. With the ubiquity of the internet, the next logical step is for retailing to move online. Retailing conducted over the internet is called electronic retailing, or e-tailing, and those who conduct retail business online are called e–retailer. E-tailing makes it easier for a manufacturer to sell directly to the customers, cutting out the intermediary. The concept of retailing and e-tailing implies sales of goods or services to individual customers that is also called B2C e-commerce (electronic commerce) (Turban et al., 2008).

In the new global era successful firms are those that accurately anticipate market trends and quickly respond to changing customer needs (Stalk et al., 1992). Towill and Christopher (2002) state the end customer in the marketplace determines the success or failure of supply chains. They further emphasize that getting the right product, at the right price, at the right time to the consumer is not only the linchpin to competitive success but also the key to survival. Chase et al. (2000) contend that in the new global era companies are forced to find flexible ways to meet customer demand. The companies these days focus on optimizing their core activities so as to maximize the speed of response to customer demand. A supply chain can be defined as three or more organizations directly linked by one or more of the flows of products, services, finances and information from a source to a customer (Mentzer et al., 2001). Management of supply chain is essentially management of the relationship and activities among the members of organizations. These relationships range from single transactions to complex

interdependent relationship. As the business environment becomes more complex, organizations recognize that many benefits can be obtained from closer and long-term relationship (Ganesan, 1994). The goal of supply chain management is for member organizations to work in together in close, long-term relationships to increase the organizational performance as a whole (Mentzer et al., 2001).

Effective supply chain management (SCM) has become a potentially valuable way of improving organizational performance since competition is no longer between organizations, but among supply chains. Supply chain management constitutes all activities associated with design, planning, synthesis, organization, and control of supply chains (Chan et al., 2003). The essential elements of supply chain management are structure of supply chains, supply chain business processes, and supply chain components (Lambert et al., 2004). It is a complex flow of demand, supply, and cash (Taylor, 2004). Supply chain management practices are the set of activities used by organizations to compete in this competitive world. Donlon (1996) describes the latest evolution of SCM practices, which include supplier partnership, outsourcing, cycle time compression, continuous process flow, and information technology sharing. Tan et al. (1998) use purchasing, quality, and customer relations to represent SCM practices, in their empirical study. Alvarado and Kotzab (2001) include in their list of SCM practices concentration on core competencies, use of inter-organizational systems such as EDI (electronic data interchange), and elimination of excess inventory levels by postponing customization toward the end of the supply chain.

In e-tailing supply chain management is replaced mainly with electronic supply chain management (e-supply chain management). The Internet allows companies to interact with customers, and collect enormous volumes of data and manipulate it in many different ways to bring out otherwise unforeseen areas of knowledge (Abbott, 2001). Poirier and Bauer (2000) refer to the term 'electronic supply chain management' as a reference for the "natural combining of supply chain and e-commerce." Electronic supply chain management (e-SCM) is a concept introduced to the need of adaptability and flexibility in a highly dynamic e-business environment which focuses on network integration. E-SCM refers to the supply chain that is built via electronic linkages and structurally based on technology-enabled relationships (Williams et al., 2002).

Information Systems (IS) have become crucial for organizations to survive in today's technology-focused environment. Increasing amounts of resources are invested in IS infrastructures in organizations to give better services and to produce better value products. Because of the advances in Internet and information technology (IT), many IS systems turned into web-based information systems (WIS), enabling access through multiple channels in a dynamic and competitive environment. In e-tailing an e-commerce systems can be considered as a kind of information systems with additional uses which distinguish them from traditional information systems. E-commerce systems perform one or more of the business functions such as information provision, communication, buying, selling, distribution, customer service, delivery, and payment processing among producers, suppliers and their customers (Molla, 2001)

The recent stage of structural changes in the Turkish economy, fostered by the new pattern of accumulation based on liberalization of markets has also shown changes in the retail business, mainly in large retailers (such as supermarkets, which are divided into hypermarkets and supermarkets), in department stores and specialty, which make up the modern group. Otherwise recorded in the traditional group, as its name implies, remains with the same characteristics that have defined previous decades.

The retail business nationwide said, in the decades of the 80s and 90s, an integrated structure for two large groups: the modern and the traditional. In addition to the above, the characteristic that defines the first is the use of technology applied in the organization and administration of the company, infrastructure, marketing, monitoring the collection and distribution of goods directly by the retail company also their degree of self. Accordingly, its effectiveness lies in its low operating costs due precisely to the efficient use of technology and human resources. The essential features of traditional retailers are little or no use of technology in all areas and the total absence of self, that is, in such establishments, customer service is provided in most cases by its owner or a worker. However, it is important to note that traditional commercial units have been in the world of retailing as the largest contribution in the number of establishments and recruitment of persons employed in the two decades.

The steady growth in the number of traditional retail type units due in large measure to the little capital required for investment - as most of the time, are located in the room of his home - owners - plus high generation of self-employment that entails.

This characteristic also leads to a very weak position in the market, which is reflected in a steady inflow and outflow of the same. One more advantage to installing micro negotiate is the meager knowledge of the business; is not necessary to know the behavior of the market on a large scale or accounting or other services; only need to have minimum levels of education, offering only basic consumer goods, the same owner demand and consume directly.

The consumer, to guarantee to find in one place all or nearly all goods and services needed such as clothes, food, appliances, shoes, pharmacy, gifts, photography, banks, tortilla, bread, toys, etc.., Go for usually a great establishment to acquire and that besides find variety of goods and services in one unit, offers payment facilities for the acquisition of the items, for example, daily deals, sales on credit terms or extended paragraphs with small amounts, and even the delivery of products to the particular customer's home at no cost.

In general, the Internet can be used for three main purposes. First, the internet is the medium par excellence messaging through the use of email and similar applications. Secondly, the Internet is a medium for conducting transactions of purchase and sale. And finally, the Internet can be used as a means of entertainment or for information (Williams et. al., 2002).

Parasuraman and Zinkhan (2002), believe that the demand for electronic services is assured, as consumers are drawn to cyberspace in search of two key benefits: information efficiency and efficiency in transactions. In the same vein, Van Riel, et al., (2001) claim it is a fact that the commercial importance of e-services, which are accessed via the internet or mobile phone, grows steadily.

Thus, web pages have become very important for organizations, because, on the one hand, more and more products and services purchased over the internet and by other increasingly using the internet is made before buying in a physical location or "bricks-and-mortar" (Iwaarden,et. Al., 2004).

Internet has own specific characteristics, such as: 1) fast access and transmission of information at high speed; 2) No barriers of space and time; 3) Ease of comparison between various objects, events, or organizations; and 4) interactivity and flexibility (Chaston, 2001).

Customers can access their services 24 hours a day, seven days a week from different locations web pages. The use of internet allows customers to complete their transactions on a single page, convenience aspect is very valued by them (Yang et.al., 2004). Additionally, also from the perspective of convenience, internet enables customers to conduct evaluations and comparisons of competitive services (Van Riel, et al., 2001). There are empirical studies that include convenience (Meuter, et al., 2000; Reichheld and Schefter, 2000; Szymanski and Hise, 2000; Zeithaml, et al., 2000) and savings in time and money (Meuter et al., 2000) and consumer benefits derived from the use of self-service technologies. Other aspects are incorporated in these studies the possibility of avoiding interpersonal interactions (Dabholkar, 1996; Meuter et al, 2000), and sense of control (Dabholkar, 1996; Zeithaml et al, 2000.).

In this sense, the results of a study by Choi, et al., (2004) indicate that the quality of retail functional web service directly influences the will of buying customers and the quality of retail service web technology has a direct effect on consumer perceptions on product quality and value.

This thesis proceeds as follows; the remaining parts of this section include problem statement, research questions, and purpose of study and significance of study. Section 2 gives the literature review. Section 3 includes research framework and methodology. Section 4 includes data collection. Section 5 includes analysis and section 6 includes conclusion and suggestions.

1.1. PROBLEM STATEMENT

The world of business has moved beyond the first wave of e-commerce. In the current era, a more mature business approach has developed. Some analysts predicted that a new breed of high-tech, web-savvy entrepreneurs would dominate the retail industry and some companies invested, and lost, billions of dollars in internet retail entrepreneurial ventures E-tailing managers now understand that an online presence in itself will not produce sustained growth and profitability. Rather managers are required to re-evaluate their current business strategies especially in relation to how upstream supply chain management practices and e-commerce system contribute to organizational performance.

When organizations need to grow and adapt to the new world revolutions, it is critical that individuals with integrate and adopt new information technologies. The effective use of information system becomes a major issue; and is convenient to carry out a review of the effectiveness of a method implemented to provide adequate and accurate information to determine its success and the most important factors that affect systems.

Some researchers argue the importance of certain factors of success, but there is no systematic attempt, synthesized and organized (Dyba, 2000) with theoretical psychometric adequacy and justification; criticized for their lack of standardization, faulty measurements of well-defined results without rigorous methodology (McHaney, et al., 2002), which still defining elements, factors or constructs representing the success of an information system; for this reason, is of particular interest to search, analyze and study the elements, attributes, dimensions and implementation factors of success in the development / implementation of information system and combining them into a model for evaluating the performance of users, as expenditures made in them (systems) is considerable, the cold hard fact well known by the organizations productivity fluctuations with the use of this software tool joins. Similarly, it is necessary to determine the impact of information system on users in terms of their individual performance and therefore their involvement to the harmonious development of the whole organization.

The DeLone and McLean model (1992), as mentioned above, is the reference model of many evaluation studies of IS around the world; no clutch, this thesis builds on the work of Wixom and Watson (2001), but goes further, as it considers using the updated 2003 model DeLone and McLean, and the aggregation of other attributes of success not included in the model Wixom and Watson, as the latter did their research in the field of data warehousing, which can be applied equally to an information system in general.

It is clear the lack of inclusion of the Human Factor in an explicit fashion models taken as a basis; to correct this situation, in this research, this important issue is addressed in the form of key attributes (managers, users, sponsors, programmers) and as explained in the user's individual performance.

The performance of organizations in e-tailing sector becomes the focus in this study; but a fundamental problem with measuring the success of information system and upstream supply chain practices at the same is the large number of dependent variables in use. According to Delone and McLean (1992, 2003), a major part is the large number

of paths that the information system can see. In this research, the focus goes to the analysis and study in Decision Making, Satisfaction and Utility Use and Users in Information Systems Control at Turkish e-tailing firms because there is in them a serious problem with respect the use of the information system, since decisions, especially those of greatest importance is continuing to take based on intuition, not critical analysis without considering the data generated by the system, lack of confidence, opportunity, understandable and accuracy thereof.

In light of the above, the following research problem has been identified: The literature highlights the relevance of two central issues to the research problem. Firstly e-tailing is considered to be an important business issue in a country economy. Secondly upstream supply chain management practices and e-commerce system are central to the success of e-tailing. It is not possible to be successful in e-tailing without effective upstream supply chain management and an effective working e-commerce system. This requires that a better understanding of how upstream supply chain and B2C e-commerce system can be effectively managed and how they affect the organizational performance.

1.2. OBJECTIVES OF THE STUDY

It is possible to list the objectives of the study as follows.
- Determine the attributes, factors and dimensions of successful implementation of e-commerce system success and upstream SCM Practices that most affect the performance of the organizations as well as the prevailing degree of correlation.
- Develop a model and analyze empirically for measuring and evaluating the impact of upstream supply chain management practices and e-commerce system success factors on organizational performance..
- Develop a model and analyze empirically for measuring and evaluating the impact on organizational performance of users with the use of e-commerce systems in e-tailing.

To fulfil the objectives, it is proposed:

- ➢ Identify the elements based on the literature review and studying and evaluating the success of e-commerce system and upstream supply chain management practices
- ➢ Designing a theoretical model
- ➢ Define a research method
- ➢ Analyze empirically the model with field work.

1.3. RESEARCH QUESTION

The formulation of the research questions was motivated by a literature review as well as by discussions with a number of academics and e-commerce practitioners. The main research questions that this study addresses are as follows:

Do Upstream SCM Practices have a significant effect on organizational performance in e-tailing?

Do e-commerce system success factors have a significant effect on organizational performance in e-tailing?

1.4. SIGNIFICANCE OF STUDY

E-tailing businesses can benefit from the output of this research by decreasing rate of failure of e-tailing ventures and increasing financial and market performance of an organization. The more effectively upstream supply chain management practices and e-commerce system are implemented, chances of failure are reduced, and the benefits to the organization and its customers are greatly enhanced. Therefore the findings of research will contribute towards successful e-tailing adoption.

This research is of importance to the academic community as well. In the current literature there are studies about the supply chain practices and information system success factors. However little has been done to extend the information system success debate to the context of e-Commerce business. In the literature there is not a study that investigates the effect of the upstream supply chain practices and B2C e-commerce

system success factors on organizational performance in e-tailing. The focus on e-tailing can be considered as the contribution of this thesis.

2. LITERATURE VIEW

2.1. E-COMMERCE CONCEPT

2.1.1. Definition of E-Commerce

Electronic commerce, also known as e-commerce, consists of the buying and selling of products or services over electronic devices, such as the internet and other computer networks means (Tapeh and Rahgozar, 2008). Originally the term was applied to the execution of transactions through electronic means such as electronic data interchange (Aonghus, 2010), however with the advent of the internet and the World Wide Web in the mid- 90s began to refer mainly to the sale of goods and through internet services, as a way of using electronic means, such as credit card payment.

The amount of trade conducted electronically has grown dramatically because of the internet. A wide variety of commerce is conducted in this way, spurring the creation and use of innovations such as electronic funds transfer, the supply chain management, internet marketing, the online transaction processing (OLTP), electronic data interchange (EDI) systems, inventory management and automated data collection systems (Wen, 2007).

Most e-commerce consists of the buying and selling of products or services between people and businesses (Wen, 2007), but a significant percentage of electronic commerce is the purchase of virtual goods (software and derivatives mostly), such as access to content "premium" of a website (Quaddus and Achjar, 2005).

For its part, the Model Law on Electronic Commerce adopted by the UN General Assembly at its 29th session, 28 May to 14 June 1996, New York, includes a definition not e-commerce. However, the guide produced by the body to incorporate this law into domestic law provides that electronic commerce includes all commercial transactions conducted through electronic data interchange and other means of communication (Sung, 2006), in that media and storage of information of those using paper used.

Some point out that the term "electronic commerce" cover all "those facets of economic activity when they are started, they operate or are concluded by means of distance communication at a distance". While it would be more appropriate for other

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authors use a definition, considered stricter (Tassabehji, 2003), electronic commerce, as "any form of trade in which computer networks as a means of communication between the various stakeholders are used." However, we believe that this definition is stricter.

Kabir, et al. (2012) in their publication Business Model of E-Tourism for Developing Countries (Turban, 1999) e-commerce limited solely to communications networks, particularly the internet:

"Electronic Commerce is where business transactions take place via telecommunications networks, especially the internet." (Kabir et al., 2012)

Paul Timmers in his paper "Electronic Commerce-Strategies and Models for Business-to-Business Trading" (Timmers, 2000) presents a less technical definition, focusing on profits through the net:

"Electronic commerce is about doing business electronically"

In this sense, the concept of electronic commerce not only includes the purchase and sale of electronic goods, information or services, but also the use of the network for before or after sales activities, such as:

- Advertising.

- Searching for information on products, suppliers, etc..

- Negotiation between buyer and seller on price, delivery terms, etc..

- The customer support before and after sale.

- Completion of administrative formalities related to commercial activity.

- Collaboration between companies with common business (long-term or cyclical form only). "

Combining these definitions we can say that e-commerce is a modern approach to doing business that detects the need for companies, traders and consumers to cut costs and improve the quality of goods and services, and improve the delivery time of goods or services (Quaddus and Achjar, 2005). So do not be followed considering e-commerce as a technology, but rather the use of technology to improve the way of carrying out business activities (Evanschitzky et al. 2004). However, e-commerce can be understood as any form of business transaction in which the parties interact electronically rather than in the traditional manner with physical exchanges or direct physical treatment (Huang, et al., 2009). Currently the way to trade is characterized by continuous improvement in the processes of supply, and in response to this global business is changing its organization

and operations (Wang and Wu, 2012). Electronic commerce is the means to carry out these changes in a global scale, allowing companies to be more efficient and flexible in their internal operations (Alanezi et al., 2010), so as to work more closely with suppliers and be more aware of the needs and expectations of its customers. Also used to select the best suppliers regardless of geographic location for that way you can sell to a global market.

2.1.2. Origin and Evolution of E-Commerce

In a few years, internet has evolved rapidly. Like the internet, e-commerce has grown with the help of new technologies. E-commerce in its purest form, has existed for over 40 years, starting with the electronic transmission of messages during 1948 through the Berlin Airlift, where the documents in electronic transactions exchanged computer to computer. In the 1960s a cooperative effort between industry groups produced a first attempt to address common data formats. However, the formats were only for the purchase, transportation and financial data, and were used primarily for intra - industry transactions (Sherif, 2004).

We can contextualize e-commerce in three fairly distinct stages:

In the first stage electronic commerce arises after the advent of the internet. After this we find the advent of the online store. And finally, is the current stage that encompasses everything related to the ubiquitous commerce.

At this stage it was intended to spread the most important image characteristics of a company among the increasingly large audience of internet, especially the World Wide Web (WWW). The mechanism to achieve this was to have a website (Hwang, 2010). Anyway, when the web comes the known gopher, system that allows you to navigate much of the information online through nested menus disappear (Schneider, 2010).

The second stage of electronic commerce is found in the online store. Companies offering information products on the web. Once the products were available online, the next step was to sell through that medium.

New technologies helped make this possible (Tarafdar and Vaidya, 2006). Were gradually emerging new tools that allow the user to interact with existing systems? Such as databases or systems charge per card. Arose virtual Chests, pages where you can offer

your product or service and you can also search the entire network all you need, and Virtual Business Centre or also called Mall which is a set of electronic stores, each of which may contain several categories of items for sale. In this type of provider retailers brought the technological infrastructure to create the online store and sold in the same space through various tenants (companies interested in selling online but without the means to create their own online stores) (Wang et al. 2011). At this stage, the biggest phenomenon were pure Internet businesses, i.e. businesses created from scratch to sell items or services A clear example of this type of company was Amazon.com: This mass events e-commerce, business segment it out and put it within reach of the most simple and basic buyer. Many companies continued to Amazon and also came with these advertising sales through the web.

Already in 1997-98 Electronic Commerce reached the top, to begin in fall 1999 in which many pure internet businesses were falling on the NASDAQ in the United States, even Amazon had losses.

Only some of the major internet sites, such as Yahoo.com, managed to profit from the sale of advertising. Promising virtual malls could never take off and suffered the same fate as portals or advertisement advertising based model, were similar to the media like radio or television but adapted to the internet (Gangopadhyay, 2002). They were based on the dissemination of free content (news, street, etc.) in which advertising (main source of income for these companies) by inserting advertising banners mingled. This meant not an end but a transformation of e-commerce (Chaffey, 2009). While big business pure internet monopolized attention, traditional businesses, traditional infrastructure such as Barnes and Noble, Ford, GM and many others, they were making real profits from their online marketing efforts. All this made him see how important entrepreneurs are doing business and not the technology (Schneider, 2010).

The current historical stage of electronic commerce began with the concept of B2B, Business to Business or commerce between companies. At this stage the entrepreneur focused on using the Internet as an integral part of business processes to take advantage of communication, information access and processing offered by the medium. The technology for the processes.

At present, e-commerce is part of daily life for many people, from booking and payment of a trip, renting a car, to make the purchase in the local store, do with a lottery

ticket or make gifts without leaving your home (Evanschitzky et al. 2004). Buying on the internet every day is done in a most ordinary way, the traditional market becomes network to offer users all the products are in the traditional store. User can log in and see what you want with one click.

2.1.3. Methods of Electronic Commerce

Electronic commerce is in an upswing thanks to the internet. This is why the interest in studying the modalities of e-commerce and so understand the needs of policy and technology.

2.1.3.1. The Way the Contract is Made

2.1.3.1.1. Direct E-Commerce

It is the purchase of an intangible asset, whose digital media content delivery and payment is made on line. Thus, both the offer and acceptance and the delivery of goods or intangible services, electronically produced (Maditinos, 2007). For example, those services related to the purchase of software, ticket, music, videos, e-books, computer games and information, among others (Lin and Hong, 2010). In this regard, it must be stressed that the use of this form of direct e-commerce allows consumers to purchase goods without the need to physically move.

It is a form of electronic trade takes advantage of the potential of the internet and its associated technologies, facilitating not only the goods or services are contracted and delivered over the network, but the payment is made within the own electronic environment the parties interact (Tassabehji, 2003), i.e. the development of negotiable phases occurs in internet, so that the parties may dispense with the traditional means of distribution and reduce the costs of trading. These are the advantages of direct e-commerce.

2.1.3.1.2. Indirect E-commerce

It is one in which the purchase of tangible goods or materials or contracting services performed electronically, while the supply of goods or provision of services is

performed by traditional means, among which are the post or messaging services and media (sea, air, land) transport and logistics, i.e. offline (off line) as it is not feasible delivery or delivery on the net. In this sense, some consider it as an "imperfect electronic commerce in all phases of the procurement is conducted electronically, except the payment and delivery of the thing follow traditional systems." Criteria we consider wrong, since payment may be electronic (Chaffey, 2009).

Finally, we must note that the indirect e-commerce transactions or "off line", are those in which the procurement of goods or services and the advertising it is done by computer, so internet will be used to hire the operation, but the delivery - delivery of goods or performance of service - and sometimes, the consideration - payment - is made by traditional channels, they depend on the object contracted payment is cash on delivery or through electronic means.

Importantly, in this type of e-commerce is not mandatory to make payment offline (offline) because they can hire and pay directly on line, but the delivery must be physically performed, because about material goods.

2.1.3.1.3. Distinction between Direct and Indirect E-Commerce

The differences between these two types of e-commerce can be summarized as follows: in the indirect electronic commerce (off line) the tender and acceptance electronically produced, whereas the goods or services are physically delivered (Tarafdar and Vaidya, 2006). This form of electronic commerce may initially provide greater confidence to consumers and users, e.g. making payment on delivery, but greatly limits the possibilities of the system (Lu, 2009).

In contrast, the direct e-commerce (on line), occurs in both the supply line and the delivery and acceptance of goods or intangible services and payment thereof (Kong et al., 2004). For example, purchase of software, music, videos, e-books, e-tickets, antivirus and computer games.

In this regard, it is noteworthy that the generalization of this type of e-commerce depends on confidence in its safety, especially among strangers and geographically distant subjects (Lu, 2009).

2.1.3.2. According to the Authorities Involved

Following the approach supported by some authors, "e-commerce has an important evolutionary step in its application on the internet and on the web has developed very different characteristics to the type of e-commerce for many years been developing between organizations".
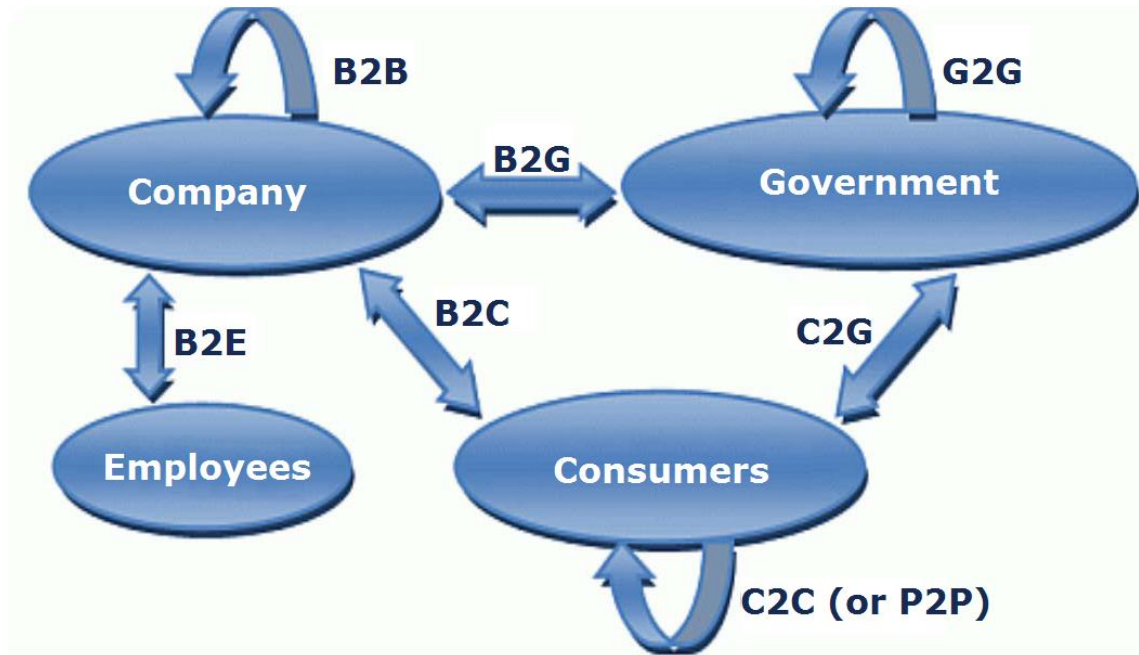
Figure 2.1. Types of e-commerce

2.1.3.2.1 Business to Government (B2G)

It is the one between the companies and the government. Is that companies become providers of administration, for this administration is doing a work of introduction of the network business by applying for various services through it, such as submission of documentation the request for information or paying taxes, among others (Sherif, 2004).

2.1.3.2.2 Business to Business (B2B)

This is the sale of products and services between companies, this trade is the most enhanced as the possibilities offered by the network are much higher because the market is opened to increase the number of companies to which you have access, as well to

generate a specific and specialized offer (Tassabehji, 2003). It is the most used at the regional, national and international, as buyers and sellers of goods and services as well as intermediates in transport, delivery and payment of goods.

Causes the development of B2B are due to (Clarke and Flaherty, 2005):

Increased access and familiarity: since companies have the hardware, software and the appropriate staff to work on the web (Sarkis and Talluri, 2004).

Notice: history of trade between enterprises already existed, such was the case of EDI, Electronic Data Interchange, which was a system of standardized protocols for exchanging data over the network used primarily by businesses.

Incentives: companies, despite belonging to different sectors, have a number of common, such as cost, revenue and profit characteristics and this makes communication between them is more fluid than with other customers.

Regarding the functioning of trade between companies on the internet, a reduction of cost of production by 12% due to the decrease of the procedures, and this can be done in two ways:

Using a real-time auction in which the company discloses its suppliers needs and perform these deals until they reach an agreement (Runyan et al. 2008), the loss of time involved requests for quotes from different companies is thus avoided, which leads a rise in costs due to bureaucratic work (Chaffey, 2009). To make this task may have created a number of companies on the internet that are dedicated to this type of auction (Schneider, 2010).

The other possibility is that providers post their articles on the web and are the buyers who bid for them.

In both cases, the auction companies typically charge between 5% or 10% of the sale, which the network not only facilitates trade between companies but also the creation of companies dedicated to this purpose.

These business platforms may present with different designs and features (Chaffey, 2009):

- **Marketplace**: is a virtual address from which firms can share information, catalogs, services, etc.

- **Online Catalogs**: where every company offers all of its products by showing their catalogs, which updated and renewed on time.

- **Product Claims**: Companies placing orders from the website, which the supplier's response is immediate.

- **Customizing the deal**: Each company can place orders after having studied the offers that other companies offer.

- **Security**: There are a number of safeguards in banking transactions, in fact the network security is one of the most developed features in e-commerce in recent years.

This process of implementation of electronic commerce between businesses, allowing them to place orders more competitive and quickly (Sarkis and Talluri, 2004), is resulting in the realization of certain alliances between technology specialists with financial institutions or IT organizations to be better prepared adaptation and improvements in the commercial use of the internet

2.1.3.2.3 Business to Consumers (B2C)

This would be the traditional market led the network, applying the features of it. It is the e-commerce model in which businesses sell to individual shoppers. The buyer asks a series of features on the Internet, sometimes in traditional commerce are not taken into account, such as price - acceptable levels of quality or service and impeccable attention (Jiang, 2003). So, we must take care of many aspects such as compliance of service and / or personalization of the offer (Thorleuchter and Van den Poel, 2012).In short, a good business web has first to study the needs of the virtual client and try to cover them giving the best service.

2.1.3.2.4 Consumer to Government (C2G)

This type of e-commerce is one that includes any exchange between the citizen and the administration. Usually, to transact business as a citizen or as the government should be in possession of a digital certificate, which can be obtained from the website of the digital signature. This allows filling in forms, participate in public bids, request for certified working life, as parents know the grades and attendance of their children at school, among others.

2.1.3.2.5 Consumer to Business (C2B)

This type of trading is that a group of final consumers that require the same or similar product and asking to join the company that offers the product depending on the number of buyers, and the more they are cheaper the same. While it is a slower process buy, it has to meet a number of buyers, the result usually worth it.

Some of the disadvantages of this type of trade (Chen, 2009) are:

- How to synthesize individual preferences to be agreed with the group.

- How to communicate with each other and the group.

- How to negotiate collectively with the seller.

The great advantage of this type of trading is cost reduction.

2.1.3.2.6 Consumers to Consumers (C2C)

It is a system widely used in the network encompasses those transactions where both the seller and the buyer are final consumers, acting through an exchange platform. It is a type of trade that is used on web sites dedicated to auctions owner (Sherif, 2004). We can distinguish two types of trading based on auctions:

The first is to find the largest number of users visiting the page, in order to increase advertising revenues (Schneider, 2010). So that the auction itself is not the business but another service offered by the company that runs this website (Tassabehji, 2003).

The second is that since the page is to make a work of intermediation and thus charge a percentage of the selling price of the product.

2.1.3.2.7 Business to Employee (B2E)

Some companies with many employees provide channels for conducting electronic commerce with the same (or B2E Business to Employee) under conditions normally favorable for employees. This is usually used the Intranet or "employee portal" where the employee may use company resources for his own benefit, including billing for sales commissions or the introduction of expenses for lodging and travel, among others.

2.1.3.3. Concept of Electronic Payment

To discuss payment by electronic means, first, we need to define very briefly what the payment is in general.

Once payment is defined in a general sense, it is necessary to define what constitutes electronic payment (Chaffey, 2009). Thus, the electronic payment is the fulfillment of the obligation to pay electronically.

Finally, it must be underlined that the payment through electronic means is not necessarily performed in the framework of an electronic contract because "there is no rule requiring manual payment in manual contract or payment address in electronic contract. As some authors do note, and it is evident in practice, may a contract of sale of goods physically held on line pay on delivery at the time of receipt of the goods, or a material contract may be paid at raves an electronic means of payment, and even over the internet.

In recent years it has been shown that the progress of the new technologies of communication and data transmission has led to the birth and development of electronic commerce, prompting in turn the emergence of new means of payment as some traditional media drawbacks or risks when paying for purchases over the internet (Schneider, 2010).

Nevertheless, the fact is that the payment of the services provided on line process some risks to consumers and users have to face in the use of electronic means of payment, for example, fraudulent use of these means, removal or theft of personal and banking data, which means that the use of electronic means of payment not as positive as initially expected (Chaffey, 2009).

In this sense, we agree with the view of those who argue that in response to the above is necessary that the parties involved in the process to reach a model that ensures safety and proper functioning of the electronic payment systems.

There are now electronic payments, accepted at many online stores and websites, means that speed transactions and seek to provide the necessary to conduct e-commerce security.

By definition, the electronic payment mechanisms are consistent consideration to effect payment through the internet, because it is not possible for the cash flow by the network, hence allowing the secure systems must be used consideration to comply fully and seller receive money for the services rendered, regardless of the benefit.

2.1.3.4. The Arrangements for Payment Methods in E-Commerce

The breakthrough of the services of the information society and electronic commerce results in the development of new forms of electronic payment, including the expansion of the traditional means of payment known. Thus, methods of payment methods used in e-commerce can be classified into two groups:

A. The Traditional Means of Payment

In this group of traditional payment methods we can find that did not work electronically, for example, cash, cash on delivery, check, bill of exchange, promissory note, money order. Furthermore, already functioning by electronic means such as credit card or debit card and bank transfer (Chaffey, 2009).

B. The Electronic Payment

Within this category of electronic payment are those means of payment created especially for e-commerce that can be classified as follows: the electronic check, electronic funds transfer, the purses cards, and payment methods through mobile and electronic money (Sherif, 2004).

Then we can define what each one of them is.

2.1.3.4.1. Bank Card (Credit or Debit)

Credit cards or debit cards are still the most used means of payment online. These are the instruments that allow the buyer to make purchases in virtual, national or international shopping, paying the parties in their respective national currencies and, in turn, allow the seller the goods or services provided, without the intermediation of cash (Chaffey, 2009). However, beyond the security issues that will be addressed throughout this investigation.

In order for the provider of goods or services may make a charge for internet, it is imperative to hire or install a payment gateway that allows the buyer to verify the data.

2.1.3.4.2. Cash on

It is the only means of payment used in electronic commerce that involves using cash money. Payment of products is done off line, ice, once the seller or logistics operator must deliver the purchased goods or, where appropriate, to provide the service (Schneider, 2010). In this type of medium involved three subjects: user, vendor and logistics operator.

It has been concluded that this type of payment method has some disadvantages, such as: late payment and the need to physically collect the cash by the person making the delivery.

2.1.3.4.3. Electronic Funds Transfer

The electronic transfer of funds, can be defined as the transfer of funds from one account to another economic role played by making payments shift money out of material. Electronic transfers of funds underlying a variety of operations (Sherif, 2004). For example, those made by credit or debit cards, whether you simple withdrawals at ATMs, or a payment transaction at the point-of- sale (POS) and many of those in internet.

2.1.3.4.4. Check Mail

The electronic check involves the migration of paper check to electronic, replacing traditional checkbook checks for an electronic checkbook pocket. The electronic check system based on asymmetric cryptography (public key) and electronic signatures, in order to ensure confidentiality and authenticity.

Includes information such as date, payee name, amount and signature, among others. They are in a secure electronic file in which the user defines the data relating to the purpose of the check.

This type of electronic means of payment can be used in most situations in which you use now a paper check (Chaffey, 2009). Also be used to authorize payments through other payment systems are not so based on the check. For example, an electronic check can be used to authorize a wire transfer payment.

The operation of an electronic check is similar to a paper check. The electronic check is an electronic device that contains encryption tools (public and private), licenses,

utilities to unlock software and utilities to perform other functions. It may also contain instructions to keep a secure record of transactions (Schneider, 2010).

This type of method of payment in electronic commerce over the internet operates as follows: the user enters the bank routing number and account number as well as your full name, address and telephone number. At once the transaction is approved directly online and the money is transferred to the merchant's account.

2.1.3.4.5. Electronic Wallet

It consists of a prepaid smart card containing an embedded microchip that is loaded with a number of completed normally not very high to make small payments of money. As will be making payments reducing the amount until the balance available can be recharged or discarded runs. It was created to replace the use of paper money and coins of little value, but its implementation has been very limited.

When a user intends to make use of such means of payment, you must first have a card reader on your computer similar to the drive. Also to pay for purchases the customer can load your card on the web server from your bank. So the customer or client computer becomes an ATM. However, in the market there are new forms of prepaid device that do not need to make a payment.

Finally, it should be noted that the use of electronic cash as payment does not require the intervention of the bank like other type of payment where the issuer does intervene.

2.1.3.4.6. Electronic Money

The concept of electronic money is broad and difficult to define in a country as vast as that of electronic payment system (EPS). In this regard there are varying opinions or criteria supported by the doctrine that has studied this subject.

For some authors, electronic money is that "payment instrument reflected in a computerized form and via electronic funds transfers pursues the same purpose as the traditional money, depending on its effectiveness of its performance." (Sherif, 2004) For others, electronic money is "a money value loaded and stored on an electronic device, usually a smart card or a computer memory." (Schneider, 2010)

2.1.4. New Trade Perspective

2.1.4.1. Neither Threat nor Benefit

Electronic commerce is not born with the aim of replacing the traditional, and in that sense, should not be seen as a threat, although some of the methods used in electronic commerce are also likely to be applied broadly to all trade (Sung, 2006), such as advertising on websites or aid to the new means of payment (Chaffey, 2009). Nor is therefore a panacea that supports all types of transactions, or to perform the miracle of change the traditional trade beyond suggesting supply and demand (Alanezi et al., 2010).

2.1.4.2. Impact on the Organization of Trade

The new trade should be organized differently. We have already mentioned the need for new intermediaries detected in several areas. Companies appear that support all activities of the trade, such as, for example, supplying information services or means of payment (Tapeh and Rahgozar, 2008). There may be companies and online stores that will unite their resources to form a joint supply of goods and services that put them at a competitive advantage (Ba et al. 2007).

E-commerce as a means of market globalization has an impact on one's business organization (Alanezi et al., 2010). Thus, it is common to see how companies are resized according to their new situation, are virtualized as in the field of tourism services, or find new locations offshore (Runyan et al. 2008).

Virtualization, globalization and communication are concepts that involve a great deal of depth to the traditional organization of trade:

Traditional value chain is broken, consisting of manufacturers, distributors, wholesalers, vendors, etc. (Miller, 2000), because goods and services now run through new channels that carry chains flatter organization and sometimes the directly (Ramanathan, 2010).

The money flow undergoes a similar transformation, with the added effect that through internet instant payments operate with its subsequent effect on macroeconomic issues, such as putting money supply in circulation and its possible influence on prices (Chaffey, 2009).

Transformation of the traditional concept of stocks, immaterial in the case of many new goods, or just rearranged in the case of shopping online stores.

New strategies and marketing practices, where mass campaigns are replaced by direct marketing, interactive search and participation of mediators of information (Yu et al. 2001), leading to relations between the producer and the consumer that let you know your preference profile and better match demand products.

2.1.4.3. A Market Waiting Maturation

With procedures, complaints, queries to administrative regulations, internet lowers the cost threshold that makes viable services that were once costly and affordable only to large companies with large transaction volumes (Chircu and Mahajan, 2006).

New technologies will boost the development of new products, especially those which, by their nature, can benefit more from e-commerce, as they are easily digitalizable and need not be tested in advance by the user (Evanschitzky et al. 2004). There is also room for the design of innovative services, including all those related to leisure.

Finally, there will be a considerable increase in activities related to e- commerce itself, as the work of its actors, solution providers, development of IT applications, creating catalogs, mediation organizations, etc.

The money is mainly in trade relations between companies, whose volume is estimated up to ten times higher than that associated with consumers.

Trade between companies via the internet has grown, but it has to be noted that this is the result of the increasing use of internet mechanisms for business operations and long-established (Chaffey, 2009), and that previously used telexes phone or mail, and now are being replaced by means such as email or web pages, are sponsored by the fastest, easiest, cheapest trinomial (Kong et al., 2004).

Trade led to other consumer-related segments, which will be an important contribution due to micro transactions (small value purchases), take time to develop.

Despite an explosive start on some sites, e-commerce will require a maturation period, time shall be used by the various parties that have come into play (Ramanathan, 2010). First, states must prepare the economic and regulatory frameworks to trade.

Civil society has assigned the role of providing mediation frameworks, standards and self-regulation.

Traders should prepare for access to electronic commerce, taking into account the new economic framework, where new relationships will occur, new goods are sold, and in many cases, should organize the business in a different way.

The last word belongs to the consumer, which until now has followed rather passively developments in the fields of traders and mediation organizations (Evanschitzky et al. 2004). The latter must create consumer confidence, which, by its dependence on internet development (Lu, 2009), will grow at the rate of network so that befall their maturation, in all probability, since 2002.

2.1.5. Demands of E-Commerce

2.1.5.1. Areas with New Situation

The full e-commerce will have the effect of requiring new functionality to business actors, will obsolete many current practices and require new frameworks for their implementation and consolidation.

This will also affect the infrastructure supporting it, while that will foster the emergence of new business entities specific electronic commerce.

The fields in which these new requirements appear can be found in the following areas:

a) Merchants and users.

b) Networks and communication terminals.

c) Structure and organization of trade.

d) Legal, financial and monetary aspects.

Dealers and users require new procedures do not impose restrictions on traditional methods, while need a new range of services, mechanisms and devices specific guarantee of the new trade.

Communications -Internet- play the dual role of facilitating trade relations between the parties and, at the same time, provide the basis for its users and potential demand of e-commerce (Chaffey, 2009). Communications should accommodate the needs of electronic commerce.

For their development, electronic commerce requires a new way of organizing and structuring trade entry and technologies that underpin the emergence of new agents, whose services will be essential for the new trade (Steinfield et al., 1999).

Finally, electronic commerce, and any new activity, is not a strong regulatory framework (Kong et al., 2004), and what is more important, many aspects suffer from a particular orientation when setting this.

Some of the guidelines are an extension of the existing, but the amount of new issues raised by new trade and the number of new requirements necessitate a thorough review of the current framework.

2.1.5.2. Dealers and Users

The traditional trade has operated for centuries by long-established patterns, preferences and responding to user needs, and that e-commerce should inherit and fulfill.

The following list summarizes the requirements of buyers versus electronic commerce:

Authenticity and Verification

This pair of terms, united by their close proximity, leading to authentication, in which the authenticity of the origin and destination of the data and their originators, such as identity, valid means of payment, etc. is guaranteed. This relationship also must play an important role intermediaries legitimacy of transactions, whose responsibility is to be defined and differentiated with respect to other related information intermediaries, marketing and payment methods.

This is one of the areas where it works harder today, not only because of its intrinsic importance (Shang et al, 2005), but because it raises the question of who is the entity that can guarantee the authenticity. Despite the progress made, it is still in the definition phase, which should finally have a social and legal endorsement.

Integrity

The transaction data should be kept intact and with no possibility of malicious modification. Lack of integrity can be the means for fraud in trade, affecting the nature and quantities of the order, name of recipient, amount paid, etc.

The same data required to individually integrity is also required for the transaction as a whole (Becerra and Korgaonkar, 2009). Each transaction will form a single whole,

so that the disintegration of a transaction is avoided (Huang and Chou, 2004), whereby incomplete transactions (orders delivered and then not paid, for example) and their commercial and economic consequences could occur.

Notice

Dealers and users want their operations and overall details such as client, consumer habits, etc. to be not known to anyone outside the transaction and remain confidential.

Anonymity

By anonymous, nobody gets to know who made the transaction. Thus, the anonymity that accompanies purchases and payments made in cash (Becerra and Korgaonkar, 2009), in which the operation does not record the name of the buyer, nor is therefore traceable recovers.

Anonymity is not coincident with the confidentiality, nor is it guaranteed by, so that, when desired, both requirements must be guaranteed independently.

Confirmation, Accountability and Record

It corresponds with the parties receiving assurances that the current operation meets the guarantees necessary for completion. Trade also requires that transactions through electronic media - attribution - commitments involving payment and delivery of goods and services of the actors (Grewal and Levy, 2009), so that no waiver or repudiation of the transaction cannot occur without prior agreement between the parties.

In traditional commerce, most of the documents produced during a transaction has legal force, and involve commitments for signatory trade (Chaffey, 2009). Electronic commerce requires equal commitment between the parties, so the media and intermediary bodies should ensure that these commitments - and contract - confirmation and give legal force (Becerra and Korgaonkar, 2009).

This also requires that a record of the operations carried out, so that, at any given moment, this register can serve as documentary evidence is produced.

Payment system

The ecommerce system must have payment mechanisms fast, safe and reliable. This is probably the aspect that is more developed so far, since some current solutions are evolving existing payment means.

2.1.6. Structure and Trade Organization

2.1.6.1. Trade Brokerage

Within the foreseeable e-commerce model, the middlemen appears to act as a mediator between merchants and buyers. The role of these intermediaries will be performed maintaining a direct relationship with buyers and traders who often come to replace traditional direct relationships buyer-seller model.

These intermediaries by function, could be grouped as follows:

a) Related to access and manage information.

b) Related to the distribution.

c) Related to the means of payment.

d) Related safety procedures and legality.

A) Intermediates for Accessing and Processing Information

To understand the importance of this group, the phenomenon of globalization of trade and the economy has taken into account. Globalization is leading a global business presence and create a huge supply than demand, greatly represented by small traders and isolated consumers can not only effectively analyze.

B) Distribution Intermediaries

They should be considered as the organizers of markets for its central role in the context of electronic commerce, engage in intensive and ongoing relationships with retailers and consumers.

This group includes new organizations appeared under the guise of new technologies such as shops, galleries and virtual communities, which today carry much of the commercial traffic.

The distribution of goods where this cannot be done electronically, it is becoming increasingly important, due inter alia to organizations traditionally specialized in trade, transport and logistics are transformed into promoters of trade (Ying and Dayong, 2005), currently forming the vanguard of formulas reaching trade and increasing degrees of integration with the remaining tasks of e-commerce (Rao, 2010).

C) Mediation Means of Payment

Companies and organizations operate means of payment in trade for decades. Electronic commerce can only increase its importance (Chaffey, 2009). They appear as new technologies of smart cards, electronic money and micropayments.

D) Brokerage for Safety and Legality

Procedures related to safety and legality, they have appeared recently new types of intermediaries (Chaffey, 2009), known variously as Trusted Third Parties, Certification Authorities, or Electronic Notary.

2.1.6.2. Legal, Economic and Monetary Aspects of E-Commerce

2.1.6.2.1. Legislation

Electronic commerce, to rely on the internet, it inherits all its legal and regulatory uncertainty. The most important problems, broadly described by the literature, say the rights to privacy and confidentiality, forgery, spamming, etc.., as the most important. Purchases made online can suffer uncertainty in areas such as the jurisdictional limits of the tax authorities or the type of laws (Schneider, 2010).

Loopholes occur in relation to intellectual property rights and domain names. Other areas of difficult regulation occur because some of the practices or information could constitute a violation of rights or laws in some countries, these are perfectly legal in others. This aspect has become stronger as more internet spreads across countries with different cultures.

Today, the internet appears to be governed more by a series of unwritten rules of conduct, ethics and etiquette. The violation of these rules produces a general rejection of the internet world, but there is no effective means of control and, today, the civil society wants the self, in a similar way to that given in other areas of communications (Schneider, 2010). Thus, it is discussed whether internet commerce would be better governed by codes of conduct by law enforcement very difficult.

In the first case, states must assign an important role to civil society and delegate her responsibilities that were previously exclusive to them, such as standardization or conflict resolution.

Then, they must regulate the activity, which greatly impeded because of a clash of visions against other states, and also opposed, as we shall see, collective and individual rights. This is leading to discussions in various fields, such as internet security, the organizations that guarantee or issuers of electronic money.

Governments around the world must make a major effort in the development of a legal framework to regulate and boost e-commerce activities, but taking special care to ensure international harmonization of laws, avoiding restrictive regulations which may injure the proper development of this new business channel.

The creation of international forums and the involvement therein of all world governments, as well as caution in law and the promotion of self-regulation by market players will be essential for this purpose.

It is currently working hard in the search, not without controversy, of compromise to resolve the conflict between the rights of citizens, to confidentiality - and -a state audit.

The states are in favor of all measures to ensure the safety of the state, and in the case of e-commerce, enabling the control of data and electronic money, because they are the tools used at the time of the crimes and hinder fraud. However, they are less sensitive to the rights of confidentiality and anonymity, which hamper their efforts to trace crime and identification of the authors.

The new modes allow up to unspeakable ends trade secrecy and confidentiality of those involved in e-commerce transactions so that electronic payments between people can currently be hidden in predictable framework and therefore given to fraud tax and money laundering.

At present they are specifying and developing procedures and techniques to raise the protection of trade operations to investigate certain transactions by authorized persons. These procedures involve the creation of specific government offices and the creation of special techniques, but its definition and regulation are being extremely complex.

2.1.6.2.3. Effects of Electronic Commerce on Tax

The current debate over taxes on international transactions seems to opt for a number of principles, such as standardization of taxes on the network in all countries, tax only in the country of purchase, and the exemption of new trade taxes, in addition to those

already supports such all kinds of trade. For that, you have been directed to the proposals for the relevant international environment.

Even reaching these agreements, yet to get the e-commerce presents many other questions. States have various taxes, and within these, of different types, depending on the nature of the goods exchanged (Chaffey, 2009). All goods delivered by the internet are of the same nature, making it difficult to apply different types of taxes.

Moreover, the elimination of many of the current commission trade that will occur with e-commerce, although in many cases advantageous to trade deprives states of a transmission, the dealer, which made paper collector tax through invoicing, VAT (value added taxes) assessments, etc. (Schneider, 2010).

Modern encryption systems that are widely used, protect information to the extent that the material will be very difficult to recognize that transport communications, and distinguish whether taxable or not material. The same is true of e-money payments, so that the control through monetary transactions is extremely difficult.

A major impact on the taxation of trade is due to the possible relocation of companies, their resources and their goods.

There are already companies that are registered in one country to another have their technological resources and human resources, which today is perfectly legal in many areas.

This has been going on with holding companies, trusts and funds sometimes used to hide money from the monetary authorities of other states. The possibility of new locations is not purely speculative, but real. The new locations of companies are being encouraged by small states and tax havens that they even offer incentives and facilities (Rao, 2010), such as low taxation, banking secrecy and second nationality. Hence the new fronts on which almost all states are involved, the fight against tax evasion and money laundering arising.

2.1.7. Advantages and Disadvantages

2.1.7.1. Advantages

Trade is virtual and not physical, thus saving the cost of a local. It is possible to work without stock, if desired. This means that goods acquire the as they buy from a seller.

Major business scope. You can sell anywhere you get internet, or everyone. You can target an audience more objective, according to the nature of their business and not waste time communicating to their products do not.

Ease of purchase. The customer purchase in an easy and relaxed manner, choosing between different forms of payment and receiving the product at home.

Easy to foreign trade. Trade on- line customer pays his money and his copper company.

Reducing order errors.

Increased quality of service. The business will have a mechanism for fast, reliable and efficient sale.

2.1.7.2. Opportunities

The greatest benefit will be for those companies that are able to change their organization and its business processes to fully exploit the opportunities offered by electronic commerce (Jelassi and Leenen, 2003). E-commerce offers varied opportunities for suppliers and multiple benefits for customers:

Global Presence / Global Choice

E-commerce limits are not defined by geographical or national borders, but by the network coverage of computers. Electronic commerce enables even smaller suppliers to achieve a global presence and do business around the world (Chaffey, 2009). The customer can choose from among all potential suppliers of a given product or service, regardless of their geographic location.

Increased Competitiveness / Quality of Service

E-commerce allows suppliers to increase the competitiveness coming closer to its customers. Allows better support pre and post sales, increasing levels of product information, user guides, and rapid response to customer demands. The client obtains an improvement in the quality of service (Alanezi et al., 2010). With electronic interaction, providers can have detailed information on the needs of each individual client and automatically adjust their products and services. These results in products comparable to those offered by specialists but as mass market prices (Cao et al., 2003).

Chains Shorter or Non-existent / Delivery Quick Response to the Needs

Electronic commerce can often drastically reduce delivery chains. There are many common examples where the goods are sold by the manufacturer directly to consumers, avoiding postal delays, buffers and delays distribution (Thirumalai and Sinha, 2011). The extreme example is the case of products and services that can be distributed electronically, in which the supply chain can be completely deleted. The customer can quickly get the precise product you need, but not limited to the current stock of local distributor (Rao, 2010).

Cost Reduction / Price Reduction

Reducing transaction costs translates into substantial reductions in price for customers (Ba et al. 2007).

New Business Opportunities / New Products and Services

Besides the redefinition of markets for existing products and services, e-commerce also provides entirely new products and services.

Briefly, beneficial accruing to firms to use the internet as a commercial medium is reduced to two aspects: distribution and marketing.

Distribution: For many businesses the web has become a new distribution channel. These companies do not need intermediaries to distribute their products. They can be taken directly from their websites by customers.

In addition, buyers and sellers can easily contact, eliminating the costs of large traditional marketing campaigns (Grewal and Levy, 2009). The time required to close a

sale has fallen dramatically in companies that use the internet, because communication between the company and the consumer is almost instantaneous.

Another very important advantage is the ability to store the buying process (and different purchases) from each client (Thirumalai and Sinha, 2011). This allows a company to know in depth customer's useful information to develop new products, modify existing or generate continuous changes that tend to provide better service (Jelassi and Leenen, 2003).

Communication: Most companies use the web to display their own information and products or services to other businesses or consumers. But media characteristics allow companies gain a closer relationship with their customers. You can offer information, advice, and attention to technical products.

The web is an area without public opening hours, i.e., customers can visit the company 24 hours a day.

2.1.7. Disadvantages for the Company

The need to have good knowledge of computer systems. Rejection of new information technologies, which can be generated as a result of its complexity of use, which limits or slows access to the same people over age or training deficiencies.

The cost of implementation.

Not valid to sell certain types of products method. Lack of personal relationship in the sale. The loss of staff regarding the seller raises suspicions and fears buyers and difficult to provide important services such as advice in buying or trading.

The future of e-commerce is in the long run.

The transactions are not secure (Nabi, 2005).

2.1.8. Benefits of E-Commerce

The benefits of e-commerce have been discussed by a number of researchers who have categorized those benefits according to different conceptual frameworks (Chaffey 2003; Turban et al. 2004; Wang, et. al., 2002). For example, Turban et al. (2004) categorize the benefits of e-commerce based on the party which receives the benefit, such as the organization, the customer, or society. Another classification provided by Chaffey

(2003), is that of intangible benefits. According to Turban et. al. (2006) some examples from the point of organization, customer and society as follows:

Organization; Increased sales from new sales; cost reduction from marketing, supply chain, and administration; enhanced brand image; and so forth.

Customer; Cheap products and services; more choices; time saving; electronic communities; and so forth.

Society; Improved quality of living; availability of public services; hope for the poor; and so forth.

E-commerce could help organizations reach both national and international markets; there is no geographic boundary for e-commerce (Wang et al., 2002). Organizations have virtual branches all over the world; and their products and promotional information are available globally to their potential customers. More customers have the opportunity of accessing products and services even from a great physical distance. Consequently, increased revenue from new customers and new markets can be expected (Chaffey, 2003).

In addition to sales opportunities for the sellers, e-commerce can also increase purchasing opportunities for the buyers, and thus makes the supply chain more efficient and effective (Agrawal et al., 2001). Through the huge amount of information available on the internet, organizations can easily compare and identify new business partners and suppliers and achieve cheaper prices, better efficiency, shorter ordering time cycles, cost reductions and uninterrupted business availability (Chaffey, 2003; Turban et al., 2004). Schneider (2006) points out those benefits will create competitive advantages for organizations.

E-commerce also provides companies with more opportunities to communicate with customers (Fluss, 2001), such as online communities, which enable faster responses to customer demands and expectations, help implement better marketing strategies, and enhance customer loyalty (Turban et al., 2004). Increased opportunities for business-to-customer communication also assist in building strong brand and corporate image.

2.1.9. Limitation of E-Commerce

Even though e-commerce provides numerous benefits to customers, organizations and society, there are some costs and limitations associated with e-commerce enterprises. Chaffey (2003) points out that luxury cloth, some other expensive and customized products are hard to inspect online, and customers like to feel and touch those types of products. Burton (2005) also noted that customers don't buy an expensive luxury product without a salesperson's expertise. However, Huges et al. (2001) argued that this situation is only temporary, and with the development of technology and the maturity of e-commerce, this limitation will disappear.

Turban et al. (2004) also noted that there is lack of a universal standard for e-commerce, and a lack of standardized laws for the operation of e-commerce. At present, the legal environment for e-commerce is full of unclear and conflicting laws (Schneider, 2006). Issues such as taxation and data transmission are yet to be resolved, which may be causing a lack of trust in e-commerce. A further limitation of e-commerce is that the measurement of some benefits of ecommerce, e.g. advertising, is difficult, as there is a lack of mature methodologies available to measure the benefits of e-commerce (Turban et al. 2006). Therefore, many firms are not really willing to invest resources in e-commerce before they can see the benefits directly (Gunasekaran and Ngai, 2005).

2.2. E-TAILING

2.2.1. Definition of E-Tailing

Turban et al. (2006) defines e-tailing as retailing conducted online, over the internet. Many researchers have provided similar definitions and have noted that the concept of e-tailing is the same as that of B2C e-commerce (Rao, 2010; Turban et al., 2004). Wang (2002) provides a broad definition of e-tailing by defining it as the selling of goods and services to the consumer market via the internet. Turban et al. (2006) specifically point out that e-tailing (B2C) is the sale of products and services to individual customers. However, the application of the traditional concept of the individual customer seems too narrow for today's e-tailing situation, as e-tailing customers increasingly form

shopper groups, to price-bargain with retailers. Therefore, individual customer is not the most applicable way to describe the e-tailing customer. Accordingly, e-tailing and B2C e-commerce are viewed as equivalent.

The stores traditionally are known as commercial establishments where articles are sold, usually at retail. The store concept is related to the occupation of physical space within our real world (Williams, 2009).

With the growing mass of consumers, needs product positioning - building new branches - and considering the high costs that this represented, are used to exploit tools created for the internet and the basics of e-commerce (Chaffey, 2009).

When a model is implemented for the internet, the store suffered a transmutation in the use of physical space to digital, virtual, and its coverage of local nature is now global (Thirumalai and Sinha, 2011), hence, to identify their nature, shopping Online they are known as Virtual Stores (Endo et al., 2012).

2.2.2 Information Processing

In any computer-based system, especially the online store, it is necessary to consider two fundamental information processing parts: frontend and backend.

The terms front-end and back-end are used to differentiate the program interface and service, for example when a user initializes a service through an interface.

An application of "front-end" is one that interacts directly with the user. For our case the structure of the catalogs, the organization of the virtual store, the commands for browsing and services are a good example (Souitaris and Balabanis, 2007). By contrast, an application of "back-end" or server program which acts indirectly to support the front-end services, such as: inventory control, accounting, database, communication with suppliers and distributors (Huang et al, 2010).

The back-end resources, are usually transparent to the user, but very active and are in constant communication with each other and with the front-end. A back-end application can interact directly with the front-end or through more than one peripheral, through an intermediate program activities that arbitrates between front-end and back-end.

2.2.3 On-line Payments

One of the major points of commerce is capital recovery with their respective profit, however, the e-tailing, the negotiations are done so indirectly through the Internet and the difficulty of formalizing has forced the creation of mechanism for this purpose (Schneider, 2010). It has now been very well received collection transactional methods in the Internet by credit card, becoming a standard mass consumer society.

The electronic payment mechanism is a factor determining the size of the market (Wang, 2008). This factor has great influence on the decisions to create and develop virtual stores in certain geographic locations, which is why, already begins to mention alternative mechanisms such as digital money on models such as prepaid, e-card and e-check.

2.2.4 Security

The right to privacy, confidentiality and compliance of transactions has required the various levels of security that are mentioned below.

- Security of data transfer.

Security of data transfer server uses SSL (Security Socket Layer) licensed by some global entity SSL provider name service, thereby ensuring the buyer, where all the information that travels over the network certification does encrypted form. One of the best known is VeriSign SSL certification, which indicates the seriousness of the SSL service provider.

- Safety of data processing.

The safety in the treatment of the data is ensured through the Virtual POS systems. Data cards are only in the bank and across a "payment gateway" the transaction. The remittance system, information can be recorded, as back in the provider's server or trade, but usually not performed (Salehi et al. 2012).

Security in the purchase to the customer.

The consumer protection laws provide this level of confidence to the customer, both full compliance and guarantees the delivery of the product offered; This includes a

fast, reliable and good logistics sales and distribution service to get win market confidence.

We must emphasize that the status of the request on-line transactions through any payment system are reported in real time (Chaffey, 2009), as it may enable or refuse the provision of any service or product.

In the case of services such as software and data access where there is no physical shipment of goods, it can be delivered without human intervention when it has received acceptance of surcharge to credit card customer.

2.2.5. Virtual Stores

2.2.5.1. Definition

Commercial nonphysical place which has the task of selling goods and services via the web with a global reach (no geographical barriers) with the ability to relate and provide information to client business products and orders.

The virtual store in nature is shown as a given by a commercial entity or business models in B2C e-commerce where it is defined and capable of being automated service processes are presented (Grewal and Levy, 2009). And last but not least is the basic unit of administrative and other business models of electronic commerce either B2B, B2E (Chugh and Grandhi, 2010). A virtual store goes beyond being an electronic store products it represents a business strategy, because applications for marketing are endless, from the generation of statistics on buying and selling (Francis and White, 2004), performing analysis of market behavior, customer analysis, their consumption habits, as well as customer feedback and monetary self-sufficiency through outdoor advertising makes it an excellent option for development and especially if you are looking to design the application to generate, manage and present (Schneider, 2010).

Based on the above we can define a virtual store as the business model of electronic commerce applications consisting of service management and marketing processes in line with the function of selling goods and services.

2.2.5.2. Features

The basic features of a good online store should generally give the user:

- An intuitive design.

- A simple navigation.

- Clear information.

- Personalized attention.

- Interactivity with the client.

- Security of transactions online.

Avoid, above all, a saturation of information to confuse the customer and causing its abandonment, so we have to design an intuitive interface to get in a few steps to find the information you want.

An online store must meet the normal processes required to effect a sale: Product presentation, assistance in the purchase decision, shopping cart management, process billing, payment processing, and clearance process and delivery of goods.

Virtual stores, like physical stores may have a wide range of categories and products. Must address two types of buyers, which will only look and you know why you are buying. For just going to look, it is possible to place an ordered list of categories with which visitors can view the contents of the store in a fast and targeted to their tastes and preferences through the categories (Grewal et al., 2004). We recommend that you also have available a search within the product catalog of the store. For users who purchase is necessary to provide the record store and enjoyable methods that allows the user to do quick and easy payments.

Another important feature in the virtual stores is also a newsletter through which the company sends you notifications of special offers and promotions directly on your email client to keep you informed, but it is important to note that you should add the option to this delete their email newsletter if you want to be not informed about the products offered by the company and not attract unwanted can be annoying for the customer e-mail (Chaffey, 2009).

For customers who have purchased a product requires that the store holds a trace option in order to be allowed to view the status of their orders. Option is important to customers who have purchased a product down their impressions of the product and share their experiences with others, to interact and attractiveness of the process.

All of the above is in relation to the part of the store itself, but something just as relevant and important to the company is the management part of the online shop which depends on the operation thereof. It should give the shop maintenance forms for each of the information needed: categories, customers, products, etc. Besides that allows keeping track of the inventory of products so that no products in the store that are not available in the inventory of the business is offering.

2.2.6. E-Tailing Models

According to prior studies, e-tailing business models can be classified in several ways, such as the scope of items handled, the scope of sales region covered, the degree to which the retailer is online and a revenue model (Turban et al. 2004). Chen et al. (2004) categorizes e-tailing and retailing organizations can be categorized as:

• **Brick and Mortar**. This traditional company name defined in its main sales channel are physical stores

• **Brick and Click or Click and Mortars**. They are traditional company that has developed a sales channel on the Internet, incorporating it as an alternative channel to physical stores.

• **Pure Players**. These companies have been born in the online channel, either from its source or why they evolved from catalog sales, Internet being the sole or primary sales channel.

• **Multichannel**. We can define these players as those who not only sell in multiple channels but have also adopted strategies and peculiarities of the other players, combining the physical channels with the online channel.

A business model is the way in which each company operates and designs strategies to win market. The business model defines how a company manages to develop a productive activity that allows you to stay and grow in time. The emergence of internet has led to the emergence of new companies that have developed business models that did not exist, based solely technological infrastructure of the internet, as the business models of pure players. In addition, the internet has meant adapting existing businesses, which are backed by an economic and administrative infrastructure and have been operating under a real model of revenue and profits. Therefore, some companies have found brick

and mortar to e-commerce as a disruptive technology since the classic disrupt business models, creating risks for companies that test new business strategies still not consolidated. The brick and mortar companies have molded technology to join the digital economy by designing innovative business formulas.

Calkins et al. (2000) also points out that e-tailing can be used as a channel supporter, category killer, auctioneer, and virtual portal. Pure-play and click-and-mortar are the most common e-tailing models in the business world, and a number of researchers have investigated their nature. Most of those researchers (Barsh et al., 2000; Burton, 2005; Calkins et al., 2000; Donlan, 2000; Gaffney, 2001; Lao and Hu, 2005; Mcintosh, 2003) suggest that the click-and-mortar e-tailing model has some advantages over the pure-play model. The advantages of click-and- mortar have been generated by research, and include: the capability of the customer to physically touch and feel the product, relatively low costs and high profit margins and expertise in the traditional retail industry.

Calkins et al. (2000) stated that store-based retailers provide the opportunity for customers to see, touch and try out products before they buy. Donlan (2000) shares the same view and believes that the pure e-tailer lacks the provision for this product tangibility, and that most e-tailers are finding ways to combine the old economy businesses with the new technology, and take the advantages from both. Therefore, click-and-mortar e-tailing could offer the customer the opportunity to see and touch the products, and then buy them online

Barsh et. al (2000) advises that cost is another huge challenge that pure-players face. As Eaton (2002) notes, pure-play e-commerce firms may not take advantage of the new dot-com world. The cost advantage would lie with the bricks-and-mortar firms that expand to develop a web presence (click-and-mortar). The fixed cost of building a web presence is low for both the click-and-mortar and pure-player, but those costs for an existing firm should be even lower.

Further, in the case of e-tailers not reaching breakeven point, a click-and-mortar business is much stronger and more able survive whereas the pure-player may not be able to hold their business long enough to reach the breakeven point. The cost of building an effective distribution system is also different for click-and-mortar and pure-player e-tailers. Overall, click-and-mortar is the stronger and more effective competitor in the e-tailing industry; one important reason being that click-and-mortar e-tailers enjoy cost

advantages over pure-players, including costs of acquiring new customers, marketing costs, and the costs of a support system.

Rao (2010) states that traditional retailers have several competencies that pure-player e-tailers can find hard to match, but which are also important in the digital world, such as merchandising skills or assortment planning, forecasting and demand management. Merchandising skills and assortment planning are two of the most important competences for a retailer, as retailers need the capability to plan their assortment of merchandise based on predictions of customer demand, and organize an effective supply chain to allocate adequate resources to the market. Click-and-mortar businesses have the necessary knowledge and experience to understand the requirements of the merchandise assortment planning process, and their website might be just another retail outlet for them, where they can repeat merchandising operations they know to be successful. However, merchandise planning and assortment operations might be a totally new experience for a pure-player. Forecasting and demand management is another essential competence for the retailer. New information technology provides large and accurate data warehouses to both the click-and-mortar and pure-player, but digital data is not necessarily easier to analyse than traditional-form data. Pure-players must also address problems which have been traditionally faced by retail operations, and click-and-mortar businesses will have prior experience and knowledge to assist in their analysis of the large amount of digital data. Therefore, click-and-mortar businesses have more experience and greater capability than pure-players, to succeed in e-tailing.

Click-and-mortar retailers also enjoy the advantages inherent in selling existing brands and the advantages of operating traditional physical stores. Customers are more likely to shop online if they know there is a physical shop behind the scenes and people on the end of a telephone line to advise them and answer their questions during the purchasing process (Burton, 2005). According to Page and Lepkowska-White (2002), traditional brand awareness and brand image are useful to build web equity, and they conclude that strong equity provides added value to customers and helps them make wiser decisions about their purchases. Therefore, customers are willing to go to a website which demonstrates strong equity, to conduct their online purchase. Obviously, it is easier for click-and-mortar businesses to obtain web equity than pure-players in the early stages of an e-tailing operation. Gaffney (2001) also confirmed that an online presence with a

brick-and-mortar backup will be more successful than a pure online operation. Accordingly, click-and-mortar retailing is the appropriate business model of e-commerce for the majority of businesses in the future (Barsh et al., 2000; Burton, 2005; Rao, 2010) in terms of cost issues, existing brands, and retail industry experience.

2.2.7. Advantages of E-Tailing

E-tailing tends to enjoy the same benefits as e-commerce. A number of studies (Agrawal, 2001; Dabholkar, 1996; La and Kandampully, 2002; Sullivan, 2004; Wang et al. 2002) have investigated the advantages and disadvantages of e-tailing in detail. Wang et al. (2002) identified several advantages of e-tailing over traditional retailing. E-tailing provides additional distribution channels. Customers can visit the website, browse the products, and make an order as they do in a traditional store. With the support of advanced information technology, there are no temporal or geographic limitations for retailers or customers. This therefore helps marketers reach larger audiences more efficiently.

La and kandampully (2002) point out that a virtual market space such as the internet usually enjoys much lower costs than their brick-and-mortar competitors. Through e-tailing, retailers can provide various payment and delivery options to customers with very limited operational costs (Dabholkar, 1996).

The world wide web also can be used as a communication media, as it offers simplex (one-way), duplex (two-way), or multiplex (multiple-way) communication (Wang et al., 2002), unlike most traditional communication media which only allow one-way communication, such as TV, radio and newspapers. Through online stores, customers can provide feedback to and communicate with retailers about their reactions to the products and services. Marketers are also able to discover what the customers want and what their interests are, within a short time span.

Online merchants can offer a far broader array of merchandise than specialty brick-and-mortar retailers, and online retailing also allows customers to access and compare product information, such as price, colour, and shape (Rao, 2010).

2.2.8. Disadvantages of E-Tailing

The disadvantages of e-tailing have also been discussed by previous researchers. Lack of physical touch and inspection (Caplan, 2004), security and privacy concerns are still the challenges retailers face as customers may rely on purchasing familiar brands in order to reduce the risks associated with their purchase (La and kandampully, 2002). Another issue is that, even though the internet has had an impressive growth rate in the last years, not everyone has access to a computer and the internet, especially in developing countries. However, such disadvantages will probably disappear in the future, as the development of technology can effectively reduce the risks of online purchasing, for example, better online payment platforms. Also, social developments such as improved banking services, increased incomes and decreased costs of information technology could enable more people to afford the basic hardware and software required to access the internet.

2.3. SUPPLY CHAIN MANAGEMENT

A supply chain is a network of organizations performing various processes and activities to produce value in the form of products and services for the end customer (Christopher, 1992). SCM concerns the integrated and process-oriented approach to the design, management and control of the supply chain, with the aim of producing value for the end customer, by both improving customer service and lowering cost (Bowersox and Closs, 1996; Giannoccaro and Pontrandolfo, 2002).

Cooper et al. (1997) define SCM as the management and integration of the entire set of business processes that provides products, services and information that add value for customers. Lummus and Vokurka (1999) summarize SCM as 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.

2.3.1 Supply Chain

Supply chain (SC) which is a sequence (decision-making and execution) process (products, information and money) and flow to meet customer requirements and final taking place within and between the various stages of the continuum of production to consumption. Supply chain not only includes the manufacturer and suppliers, but also, according to logistics flows, transporters, warehouses, retailers and consumers. In a more general way, the production lines also include new product development, marketing, operations, distribution, finance and customer service.

Figure 2.1 depicts a generic supply chain. It appears in the context of what is normally called the entire network of supply chain. In such a network, each firm belongs to at least one supply chain: that is to say, it has many suppliers and consumers. A dairy farmer, for example, gets inputs such as food and medicines for animals from a number of suppliers. He or she delivers milk to one or more conditioners which in turn distribute a processed products or more retailers.
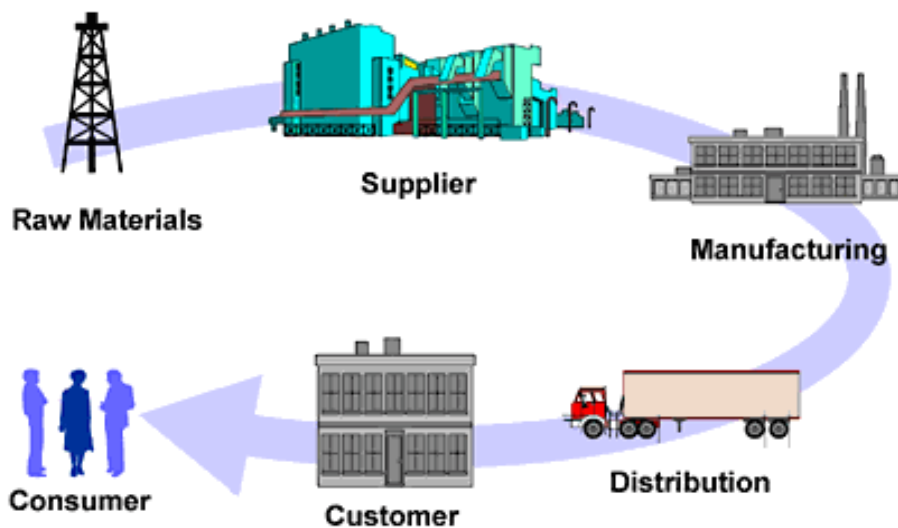
Figure 2.2 Diagram of a supply chain

Traditional design of the supply chain is that of the 'cycle'. According to this view, the process of the supply chain are divided into a series of cycles each of which occurs at the interface between two successive steps. Each cycle is decoupled from the other cycles

through an inventory so that it can function independently optimize its own processes and not be blocked by the 'problems' of other cycles. We can give as an example to quote a cycle in which the retailer inventories are filled with product delivery of the inventory of final products of a conditioner. Another cycle is responsible for completing the inventory of conditioner through the production of new final products. This point of view in terms of ' cycles ' supply chain clearly defines the processes involved, the owners of each process, their roles and responsibilities. Although this situation seems satisfactory, the next section will describe some of the negative effects from the perspective of the supply chain.

2.3.2. Evolution and Concepts

Logistics involves a variety of activities such as transportation, warehousing, inventory or packaging. It finds itself under five main categories: supply logistics (e.g. orders), manufacturing logistics (e.g, scheduling and production planning), the logistics of distribution (e.g., preparation and packaging), logistics transport (including transport planning, optimization of transport networks and the management of rolling stock) and return logistics (in the case of a defective product). For many, the logistics is an essential component of the supply chain because it ensures the availability of a good optimizing quantities, time and cost.

Trace the exact period when the concept of the supply chain was originally put forward remains unclear (Zuckerman, 2002). Most experts agree that, in the 1960s and 1970s, companies began to see the supply chain as an entity that brings together a set of closely related functions and whose ultimate goal is to serve their customers. During the 1980s and 1990s, many companies have continued to integrate several supply chain capabilities which allowed certain position themselves as market leaders. This success has prompted several other companies to adopt management practices in the supply chain. The emergence of integrated supply chain (Mentzer et al., 2001) was observed in 1996 and is, according Fredendall (2001), especially related to the introduction and adoption of technological innovations and more specifically systems information (Anand and Kulshreshtha, 2007). A supply chain in Figure 2.3 is a network of organizations that are

involved in upstream and downstream, in the different processes and activities that produce value in the form of products and services to the end customer.
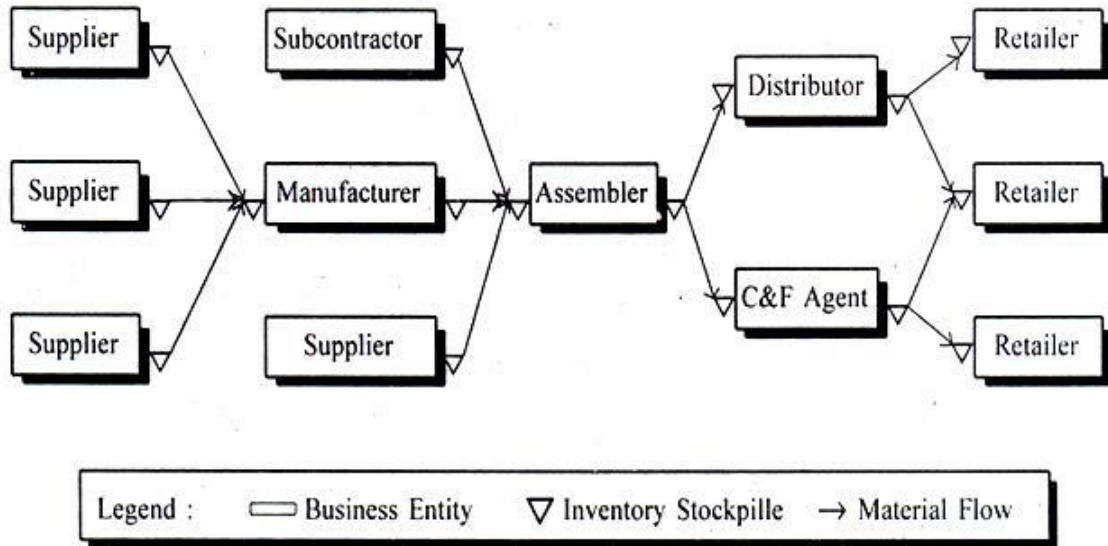
Figure 2.3. Network of supply chain

The activities of the member firms of the network are designed, structured and optimized to provide increased value to the end customer. During the last decade, the concept of supply chain has led to a radical transformation of logistics. Indeed, many companies have begun to outsource logistics activities previously performed in-house to third parties. This allowed them to reduce operational costs, improve the quality and value-added services and ensure effective collaboration between supply chain partners (Yang et al, 2009; Cao and Zhang, 2010). In addition, globalization and the increased level of competitiveness require relocation of certain activities (Zaklan et al., 2012) that are simply based on lower costs of labor. Thus, some distribution centers closer to major retailers to offer better services. For example, many industrial units belonging to the IT sector and serving the North American market have settled in Guadalajara, Mexico, although the cost of labor in China are much lower. This allowed them to better control the dissatisfaction related to orders placed and so keep a good reputation on the market (Bygballe et al., 2012).

A supply chain is characterized in particular by its process (Rexhausen et al., 2012). The process of supply chain underlying logistics activities as mentioned above, but also cover other activities such as managing customer and supplier relationships,

customer service management, product development or marketing (Lambert, 2008). Success criteria channels would control costs, reduce cycle time, the most optimal inventory management, increased product visibility, the tighter risk management and closer affinity with customers (Hugos, 2006; Thorleuchter and Van den Poel, 2012).

2.3.3. Some Models for the Management of the Supply Chain

Several studies seeking to demonstrate the importance of optimizing the supply chain require the development of effective models (Lee and Billington, 1993; Cachon and Fisher, 2000). These models can be grouped into three broad categories: business models, collaborative models or technological models. This categorization is based on the fact that some models or business practices are 1) to focus on the management of supply chains (appropriate way of doing business, philosophy and new direction or vision management), 2) require close collaboration between members of the supply chain enterprises, and 3) rely heavily on technology, especially information and communication technologies (ICTs) (e.g. mobile technology, internet, radio frequency identification technology (RFID), etc.) and various information systems (e.g. EDI, WMS, etc.).

2.3.3.1 Management Models

Management even a supply chain is highly complex. This complexity is illustrated by a typical phenomenon that occurs in all industrial sectors and known in the literature under the name " bullwip effect ' (Lee et al, 1997): A small change in final demand (i.e. downstream) results in an amplification of higher and higher gradually as one moves upstream to suppliers of suppliers. The bullwhip effect is caused by several factors, including the lack of transparency in the supply chain, the lack of reliable information and the lack of long-term vision (Bayraktar et al, 2008, Wright and Yuan, 2008). The consequences of the bullwhip effect are relatively disastrous: inventory too high, dissatisfied customers, significant uncertainties and lost sales (Mason -Jones and Towill, 2000.). All members of the supply chain may well be penalized.

Management models in the context of supply chains respond to two main ongoing concerns or inventory management at all stages of the chain (Cachon and Fisher, 2000) and coordination of processes and activities throughout the chain.

Management of Inventory

The inventory management is considered one of the major challenges in a supply chain (Ryu et al., 2012). According Giannoccaro et al. (2003), inventories represent 20% to 60 % of the total assets of a manufacturing company. The inventory management in a supply chain is dictated by a set of policies. These are oriented towards final demand, improving customer service and customer satisfaction ("demand pull") or to cost reductions. For example, reference may be made to the optimization of production capacity ("push costs") (Verwijmeren, 1998). These policies depend mainly on the geographical scope (local or global), the strategy inventory management (centralized or distributed) and model checking inventory levels (periodic, continuous or hybrid). They may also depend on the type of application (linear or distributed) and the responsibility of inventory management (self-managed or managed by the supplier) (Ryu et al., 2012). However, regardless of these policies, inventory management knows of the major constraints in supply chains (Mitra, 2012; Tsao et al, 2012). First, the activities and processes of inventory management are still based in some companies, especially smaller, on manual tasks that generate paperwork. Second, potential inventory shortages and bottlenecks are not necessarily identified. Third, information from inventory management systems can be inaccurate. Finally, loss and theft of products are relatively common in warehouses.

The concept of just in time (JIT) aims to minimize the level of storage, delivery times, waiting times and allows the implementation of standards, adequate quality control, loss of paperwork and decreased frustration among employees. JIT can be distinguished in two forms, the "great just in time "and" just in time small." The first (often known as lean manufacturing, lean operation or lean production) is considered a philosophy of operations management that seeks to eliminate all forms of losses within a firm (Iwase and Ohno, 2011). The "little just in time "focuses more closely on the inventory planning products and services provide resources when needed.

However, just in time requires consideration of several factors or the commitment of senior and middle management, the application of the so-called pull (only when downstream demand exists) method, standardization of tasks, flexible facilities and equipment and the versatility of workers. JIT knows several variants which JITIT ("Just in Time IT), CMI ("Co- Managed Inventory ") or JMI (" Joint- Managed Inventory "). The JITII ("Just in Time II") was introduced by Bose, the manufacturer of audio systems. The JITII ("Just in Time II") replaces buyers, planner's sellers and manufacturer by key people from its suppliers, with the main consequences of releasing staff manufacturer and supplier give employees a better understanding of needs their client. VMI ("Vendor Managed Inventory"), also known as the continuous replenishment, also encourages the exchange of information between business partners (Disney and Towill, 2003) sharing. Its main advantages in simplifying the process of purchasing and inventory management, a reduction in the level of inventory in a supply chain context, a better knowledge of the market and a reduction the bullwhip effect (Disney and Towill, 2003).

Models and Mechanisms of Coordination

If inventory management should be better optimized throughout the supply chain coordination mechanisms are not limited to inventory problems. Thus, several models have emerged which CPFR (Collaborative planning, forecasting, and replenishment) and ECR (Efficient consumer response).

CPFR is commercial practices which unify the vision of many partners and develop and share a set of common standards and procedures in an effort to better plan, coordinate and implement the demands of the end customer (Sari, 2008). CPFR represents a holistic approach to manage jointly as diverse as production, ordering and sales activities. CPFR goes beyond passive coordination because it requires the involvement of all stakeholders in decision making and information sharing: it stimulates so called active coordination. Among the derivatives of CPFR benefits include reduced operational costs, reducing errors in planning and waiting times and increase the level of sales.

The ECR (Efficient Consumer Response) comes from the following observation: firms can better serve customers faster and at lower cost by collaborating with business partners. The ECR is based on a strategic partnership between the various actors in a supply chain involving suppliers, wholesalers, distributors and retailers (Lohtia et al.,

2004). For many authors, CPFR is the missing link to achieving the primary objective to ensure a better quality and a more optimal choice for the final consumer (Mills, 1993).

In the same vein, the QR ("quick response") is also oriented towards the ("market -driven ") market driven was initially set up in the early 90s in the U.S. textile industry, where time reaction - about 66 weeks on average between the transformation of raw materials into clothing to store shelves - were much too long. The weather then became an important competitive factor in the industry and reducing the time was essential to counter the threat of countries undergoing industrialization. While improving the daily management activities of a supply chain (Perry et al., 1999), the QR is considered as a system of management, production and distribution which aims to satisfy consumers in minimum time (Choi and Sethi, 2010) and the foundation of what we call "time-based competition."

Management models discussed above, we note that coordination efforts have gone from a unilateral perspective dictated by the seller (for example, with the VMI) or customer (in the case of the ECR) to a bilateral approach (with CPFR). The bilateral approach includes, for each link in the supply chain to both suppliers and customers and includes for all links all members of the chain.

2.3.3.2 Collaborative Models

Collaboration goes beyond coordination efforts. It may indeed be regarded as " a joint initiative resulting in observable communications (or information exchange), the coordination of different activities and participation in decision making in order to achieve common goals ". As part of this research project, two key concepts emerge from the literature and were selected due to their dominance in a supply chain or trust and inter-organizational relationships (Panayides and Lun, 2009, Cheng, 2011, Fawcett et al, 2012;. Cheng and Fu, 2013).

Confidence

The concept of trust (Lun and Panayides 2009; Yeung et al, 2009) has been widely discussed in various disciplines. This is a multidimensional concept which involves in particular the desire, belief, reliance, hope, honesty, mutuality, shared values, reciprocity,

commitment, compassion, uncertainty, responsibility and finally the risk sharing (McAllister, 1995).

From an organizational point of view, trust is a key element in all professional relationships (Morgan and Hunt, 1994) and is reflected in the willingness to rely on an exchange partner in the hope that the latter consistent with common agreements (Currall and Inkpen, 2002). In the context of supply chain, trust is seen as one of the most important for the inter- organizational relationships (between members of the chain) and these are successful and prosperous elements (Parketal. 2012).

It also refers to a state of mind which is to create an environment where fair dealing rule, reliability in terms of fulfillment of obligations and a positive attitude between partners (Zaheer et al., 1998) in the optical increase the likelihood of achieving mutual benefits (Ireland and Webb, 2007). According to Fawcett et al. (2012), the maturity of inter- organizational trust based on three essential elements: 1) the time needed for relationships to germinate 2) achieving positive results based on an iterative sharing of experiences and finally 3) a continued investment in relations between the partners.

Trust is also perceived as an ethical and moral duty (Hosmer, 1995). Hosmer (1995), Cai et al. (2010) and Fawcett et al. (2012) confirm that trust is a catalyst for the adoption of collaborative innovation, a prerequisite for integration information and strengthening of its contents and a prerequisite for successful participation of customers and suppliers in the supply chain (Lingyun and Dong, 2008).

Trust is therefore regarded as a full component of an inter-organizational relationship and is identified as the cornerstone of strategic partnerships in the supply chain (Handfield and Bechtel, 2002; Chen et al., 2011). Similarly, Das and Teng (1998), Bachmann (2001), And Li et al (2007) argued that trust is a key ingredient for maintaining cooperation, conflict prevention and the reduction of relational risks and ultimately reduce transaction costs in a supply chain.

Inter- organizational relationships

Organizations seeking to develop a competitive and flexible supply chain absolutely must develop an inter-organizational relationship and work together to share the same strategic vision. According to Cao and Zhang (2013), this type of relationship

is based on the timing of decisions, alignment of incentives, output synergies between partners, communication and sharing of information. This last point is the sharing of information between supply chain partners, is particularly crucial (Prajogo and Olhager, 2012). The information can range specifications of a product database clients through data related to planning (Lummus and Vokurka, 1999).

Thus more and more companies recognize that there is a positive relationship between the availability and quality of information and 1) superior performance of the supply chain, 2) better inventory management (Cachon and Fisher 2000) and 3) a reduction in operating costs (Lee and Billington, 1993). In the same way of thinking, many researchers and practitioners have shown an increasing interest to any advantages of the concept of information sharing networks in a supply chain (Huang et al. 2003; Hult et al, 2004; Shin et al, 2007). Their research showed that the sharing of information can contribute to strengthening relations between chain partners, to strengthening channels coordination, reduced chain costs, improved delivery rate orders and better inter-organizational planning.

2.3.3.3 Technological Models

Information and communication technologies (ICTs) are considered as an essential component for managing a supply chain (Byrd and Davidson, 2003). Indeed, the development of information systems and management information systems (ERP systems, "data warehousing", "data mining", etc...) and mobile technologies (Internet, RFID, etc.).

On the informational level, Nativi and Lee (2012) emphasize the potential of ICTs to provide accurate and reliable information, which leads to improved performance of the supply chain. In addition, Prajogo and Olhager (2012) focus on the potential of ICTs to ensure the sharing of the enormous amount of information in real time (Adiele and Ehikioya, 2007). For example, companies such as Dell and Cisco share a common set of information with suppliers and customers, allowing them to better control the workload and inventory levels while ensuring better anticipation on fluctuating market changes (Jingquan, 2001).

In addition, the adoption of ICTs in the supply chain allows for a greater integration of partners, a more optimal flow coordination between the members of the

chain and greater agility and adaptability from these (Wu et al. 2006). This results in improved performance. According Nechita and Timofti (2011) and Chung et al. (2009), ICTs support models, improve relationships between partners and help ensure appropriate control and monitoring of planning and quality of services. Some computer software applications and information systems which are particularly important for the management of supply chains are described below:

1) EDI ("Electronic Data Interchange") which appeared in the early 80s has been and remains the cornerstone of inter-firm trade (Cao and Zhang, 2013b). EDI refers to the direct communication from computer to computer documents in a very structured standard format. Its inter-organizational dimension has received much attention from the business world and has been the subject of numerous articles. However, its rigidity same is not necessarily an asset to meet the specific needs of supply chains (Lee and Whang, 2005) and other RFID technologies also play an essential role.

2) ERP ("Enterprise Resource Planning") or ERP system is considered a business solution is to gather a set of business processes to automate and standardize (Aslan et al., 2012). It cites, for example, manufacturing, accounting, human resources management, marketing, sales, etc... The ERP offers several advantages, including vertical and horizontal diffusion of information, data reliability and simplification of the process (Gupta and Kohli, 2006). When ERP is extended to the supply chain, it allows strong integration of information flows between its members.

3) EDMS ("Electronic Document Management System") or the electronic document management is an application combining a set of technologies and systems (Hung et al., 2009). It's objective is the support and control the life cycle of electronic documents. Its main features include the transfer of records in the system, storage and archiving, organization and classification via an indexing and retrieval system via a search tool (Zhao et al., 2010).

4) WMS ("Warehouse Management System") or warehouse management system helps maximize the efficiency and productivity of the tasks performed within a warehouse. This application is to plan and manage the flow of inventory in a warehouse. More specifically, it provides control of the main activities including receiving, put away, picking and shipping of goods, and all the management features that support (Shiau and Ming- Chang, 2010). Among the main advantages of the implementation of a warehouse

management system, there is the reduced time, increased traffic flow of goods and optimization of storage space (Park and Hyoungkwan, 2013).

5) The CMMS ("Computerized Maintenance Management System") or management of computer-aided maintenance (CMMS) is an application that allows specialized maintenance and maintenance operators to plan, organize and control in an automated manner all their assets daily and integrated manner (Godot and Villard, 1999). This system offers several advantages because it keeps electronically a detailed history of all repairs done in the past, plan for future maintenance, follow the historical cost and estimated maintenance costs and future maintenance, storing documentation and technical procedures related to each asset and generate work orders based on inspection and maintenance (O'Donoghue and Prendergast, 2004) priorities.

2.3.4. Collaboration and Inter Firm Relations

To deploy flexibility, agility and creating greater value companies are decentralizing their non-core activities subcontracted to focus on their specialty (Gunasekaran and Ngai, 2004). This fact induces a dependency between companies and there unfolds the supply chain. To this end, Lancioni et al. (2003) show that a single company can be successful in business, because its success depends on the whole network involved in the transformation of raw materials into products offered to consumers. It follows that the results of any improvement project, such as reducing the transit time within a supply chain are dependent on the level of integration and collaboration of actors in this chain.

We should know how to create and maintain collaboration. In Figure 2.4 the criteria for establishing a lasting collaboration with key partners, and the cases of dissolution of the partnership are seen.
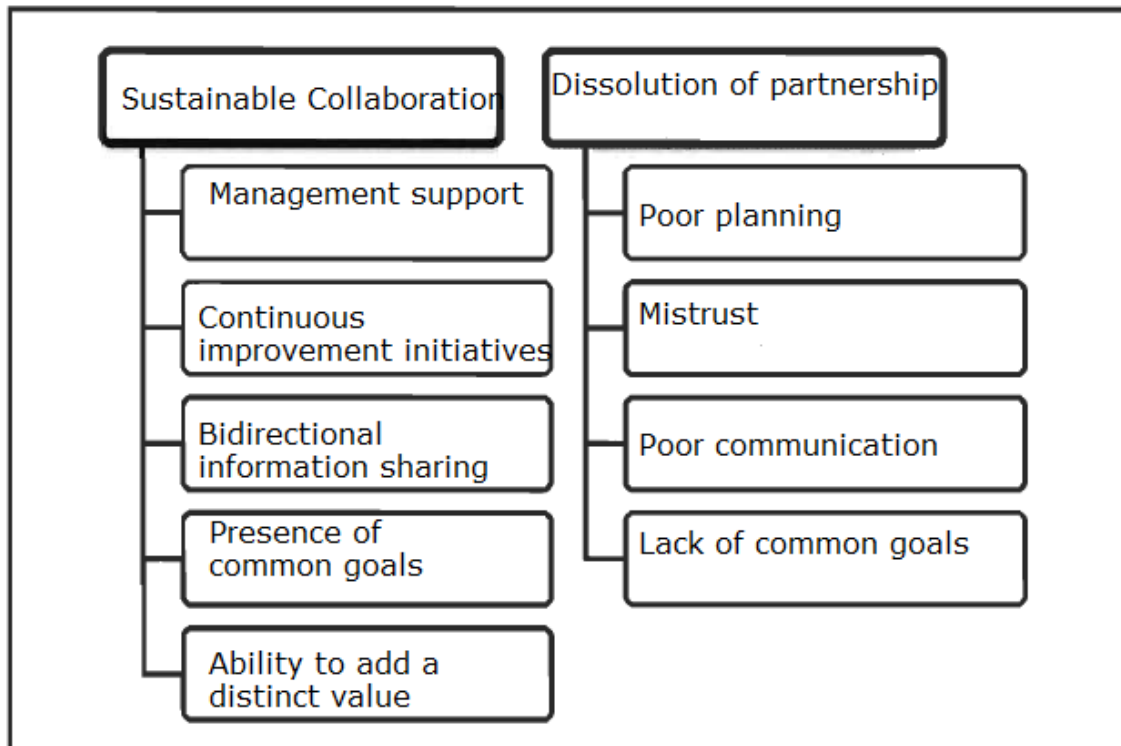
Figure 2.4. Factors creating collaboration and partnership dissolution

In most cases, the relationship of companies in the supply chain is strongly supported by information technology (IT). The concept of electronic business (e-business) is required. Electronic business between companies are more favorable to develop a relationship if there is a compatibility values, systems and practices (Claycomb et al., 2005).

The involvement towards collaboration is dependent on the relationship between firms. It is the quality of the relationship that dictates the intensity with which firms will engage in a relationship or partnership. A company that adopts a positive attitude (friendly) to the information request generates a positive attitude (voluntary) information sharing partner. And consequently, a positive attitude towards information sharing leads to a positive quality of relationship.

In business relationships, companies are not all on an equal footing to assert their interests and needs, some find themselves in the position of trade dependence. This trade dependence between a prime contractor and supplier, is accentuated by the size difference between these two companies, and as a percentage of capacity that the provider dedicated to customer orders. Under these conditions, a prime contractor may have an upward allowing it to trade more easily and decide the actions to its SME (small and medium

enterprises) subcontractors. This can lead to an asymmetry of profits. The power companies can exercise towards each other is either coercive or is collaborative. Coercive power forced the individual to act or to obey and implies a reprimand if the desired behavior is not obtained. This approach does not encourage collaboration, but it causes usually have desired nothing more. The coercive power sources cause conflicts between partners. In return, a collaborative power increases business satisfaction. In the same vein, they argue that the success of a supply chain depends on the sharing of information and should not create reluctance to collaborate. Instead, the aim should be a maximum level of involvement of business partners and it begins with trust. In summary, companies will use the power they derive from their relationships to influence the behavior of their partners to act according to their preferences. It can be an incentive to cooperate, forcing a minimum level of cooperation to capture or not the majority of the benefits of the relationship. This can be both favorable and unfavorable for collaboration depending on whether this behavior generates a distribution of profits or not.

Nevertheless, it happens that companies are in a situation of mutual indifference amid a sluggish trading without common objectives and without desire for partnership. In supply chain, the indifference relationship is the most critical since nobody feels pressure to collaborate and strengthen ties. It has a total lack of participation objectives across the supply chain.

The mutual indifference relationship is critical for the coordination between the different companies. The coordination of supply chain depends on the communication and cooperation of the actors that indifference is prevent. In addition, a supply chain is fully coordinated when all business decisions are aligned with the overall objectives of their chain. So if individual motivations are incompatible with those of the network, or the independence of enterprises is strong coordination weakens (Funda and Robinson, 2002).

To establish sustainable partnerships, companies involved must also be trusted. Which is difficult considering that trust is difficult to obtain. Often verbal agreements are not sufficient to maintain it. Confidence is also reflected with the standards in the form of political redemption returns, contracts flexible quantities or allocation rules (Funda and Robinson, 2002).

2.3.4.1. Mechanisms in Business Coordination

Are various mechanisms used by businesses to achieve coordination between customers and suppliers? As the most relevant, include those of an economic nature to motivate so "easier" to take specific coordination strategies. In the field of business cooperation agreements. Chopra and Meindl (2001) identify eight coordination mechanisms: a) alignment of goals; b) incentives for coordination; c) improvements in the accuracy of the information; d) design a control supply; e) improved operating performance, f) share more information, g) discount based on the volume, and h) use of multimodal transport systems.

a) **Alignment of goals**. One way to improve coordination in the supply chain by aligning goals and incentives, can be accomplished by promoting the unification of policies in all functional areas of the company and between companies within the chain. The key is to align the goals of the different areas or participating companies. To ensure this, it is recommended that all decisions on facilities, information, transportation and inventory are evaluated based on performance and not simply the cost.

b) **Incentives for coordination**. The establishment of special prices from lot size in commercial negotiation, is one of the concepts used to encourage more coordination. A provider can use this mechanism as an enabler to determine the batch size and supply periods. For example, you can offer a quantity discount depending on the size of the order, in order to impact positively on the associated fixed costs.

c) **Improvements in the accuracy of the information**. There are several advantages of sharing information with high accuracy. The first and most important is the reduction of uncertainty with a positive impact in making coordinated decisions. When companies in the supply chain are striving to improve their information systems, their reward is reflected in a reduction in transaction costs due to improved inter and intra - business communication.

d) **Design of only one control supply**. Currently it is very common for companies to grant their suppliers activities or decisions that once competed with them. For example, the planning activities of the supply of raw materials or finished goods, by the supplier, have become a management tool widely used by customers to reduce their logistics costs. The most common scheme is aimed at reducing the level of inventory and related logistics costs, which is implemented through the design of a system for sharing information, often

confidential. Obviously, the implementation of this formalism requires a high level of coordination to ensure the supply according to the actual needs.

e) Improving operational performance. It refers to the search for a reduced cycle time for the supply through better communication tools, or adoption of improved production systems (eg, cell flexible or manufacturing). Indeed, an improvement in the generation of orders, in the operation of transportation and inventory management, allows the reduction of lot size, and in turn, a decrease in costs associated with using a coordination strategy.

f) Share more information. To some extent it is a logical and natural mechanism for better coordination in the supply chain. However, it is important to note that the valuable information not only comes from a current situation but also of the past. In general, some companies enhance the coordination of logistics management by analyzing the historical data of its partners to make appropriate decisions.

g) Discount based on the volume. Changing the discount policy based on the lot size to one based on sales volumes, is a mechanism that aims to eliminate unnecessary increases the batch size. Thus, volume discounts apply to all orders made in a specific period of time (e.g. one year) stabilizing the lot size and reducing the variability of orders.

h) Use of multimodal transport systems. The combination of different modes of transportation to move goods, is a coordination mechanism that can allow the timely supply of products and inventory reduction. Obviously it requires coordination involve transport companies and consider them as an element of the supply chain.

2.3.4.2. Strategies of Coordination in Supply Chain

Parallel to the rapid growth of global competition, it has increased interest in managing long-term relationships between trading partners in order to achieve joint benefits. To achieve this, companies have developed some coordination strategies in order to improve their core activities.

Thomas and Griffin (1996) classify these strategies into three main operational levels:

a) Coordination customer-supplier

b) Coordination production-distribution

c) Coordination - inventory distribution

In general, it can be substantiated that each of the topics mentioned coordination, have been widely explored by researchers and practitioners. However, because the field of study is obviously extensive, apparently none of them is fully covered. According to the scope of this research project, the interest of this section is to present coordination strategies most used by customers and suppliers, in the management of its core activities.

In principle, you can define a coordination strategy as the long-term plan that allows focus efforts and align resources productively a set of business processes, subordinate to the operational strategy (business model) adapted to the business features.

The first initiative created to allow integration in the supply chain comes from 1992, when 14 organizations sponsored the group called "Efficient Consumer Response Movement" (ECR -M), in order to lead an unprecedented transformation of the practices of business (Harris and Swatman, 1997). In late 1992, the ECR- M Movement published a report suggesting the optimal business practice for the management of the supply chain (Kurt Salmon Associates, 1993 in Harris and Swatman, 1997). The report that is plated chain benefits could be achieved through four main strategies:

a) Efficient promotions

b) Refill efficient

c) Efficient product development

d) Efficient replenishment

The first three correspond to the dominance of marketing aspects (marketing), while the fourth affects essentially logistics. According to Barratt and Oliveira (2001), the report suggested the need to "... develop relationships based on trust between manufacturers and retailers (including suppliers and customers in general), to share strategic information and optimize all results in chain supply. ". From this initiative, a significant number of initiatives based on collaboration strategies have emerged.

For example, Perona and Saccani (2002) provide a conceptual framework that illustrates management mechanisms or more used by companies to the formation of collaborative relationships between suppliers, customer's strategies. In his paper, such strategies are defined as "techniques of integration" and classified into three groups: strategic, technological and operational. Most of them are looking for the coordination of logistics management.

On the strategic side, there has been coordination of strategic planning, which involves the development of plans for market expansion and coordination of approach to business. As Thomas and Griffin (1996), coordination in the supply chain also includes the decision to open or close plants or distribution centers, assign equipment to production facilities, selection of the activity to be transferred to third parties (outsourcing), assign manufacture of a product to a plant, jointly design a product, among others.

As regards the technological strategy has driven the redesign set of processes, products and management of the supply chain (Lee and Billington, 1993). It has also promoted the assembly of new products with formalisms of co - design, virtual engineering and technological innovation joint (Turnbull, et al, 1992; Lazaric and Marengo, 1997).

Related strategies for managing the coordination of materials, methods emphasizes quality certification, the free passage of suppliers, dictated acquisitions. Meanwhile, in the coordination of production and control strategies for global orders, assembly production capacity dimensioning, planning and collaborative forecasting and supply.

The most common design of the distribution network strategies are: network reconfiguration stores (Melachrinoudis et al, 2005), shortening the marketing channel (Magretta, 1998) and localization strategy. Finally, management strategies involve the distribution of the coordination of planning distribution requirements between companies (Christopher, 1992; Novack, et al, 1993); multi - batching systems (multi -pick) and multi - supply (multi-drop) as well as collaborative management schemes transport (Browning, 2004).

Notably Esper and Williams (2003) reported that one of the first extensions of the conceptual framework of collaborative relationships in the supply chain are "Relations Collaborative Transportation Management". This strategy aims to develop partnerships between suppliers, customers, carriers and third party logistics providers, in order to improve service, efficiency and costs associated with the delivery process.

At operational level, the strategies are aimed at customer-supplier coordination, production-distribution coordination and inventory - distribution coordination (multieslabones, multistage, different topologies, routing - inventory problems). In other

words, the operating strategies from stage supply to distribution, through the production area.

Among the most common strategies are those with a focus on the coordination of inventories. Highlighting the tight supply (Lean Replenishment) involving techniques such as "just in time "frequent deliveries (Isaac, 1985), continuous supply programs, vendor managed inventory (Vendor Managed Inventory, VMI) (Marien, 2001), common strategies refill times (Common Replenishment epochs, CRE), among others.

For the purposes of this research, then briefly describes some strategies for coordinating inventory more commonly used today.

2.3.4.3. Coordination of Inventory in the Supply Chain

The issue of inventory management excellence is one of the issues most attended by academics, and of greater interest to industry. Ganeshan and Harrison (1995) note that the cost of inventories may be between 20% and 40% of its value, and its efficient management becomes a critical factor in the operation of the chain and to achieve strategic goals global management.

For the above reason, this section provides a brief analysis of the type of inventory that occurs at different stages of the system and the importance of coordination is identified; at the end the most common coordination models (centralized and decentralized) are described.

2.3.4.3.1 Hierarchical System Inventory in the Supply Chain

Overall provisioning systems have several levels or between departments, known as multilevel inventory, in a more or less complex industrial enterprise. The problem with this inventory involves minimizing the total cost to all levels.

Thus, the most common inventories at each level are: (1) raw materials inventory (items for production components, subassemblies, office or tools); (2) inventory of goods in process; (3) finished goods inventory; and (4) Stock in transit (see Figure 2.5).

For raw material can be understood as those products purchased from suppliers for use as an input in the production process and processing to finished goods. The work-in-process (WIP) refers to the partially finished goods that are still in the process of

manufacture. Finished goods are final goods available for sale, distribution, storage and consumption.

The inventory in transit, consists of goods that are in the transport route for final consumption. There are some who consider the provisions as other inventory, and this means any article used for maintenance, repair, and support elements for operations (i.e., pencils, paper, light bulbs, typewriter ribbons, and articles installation maintenance).
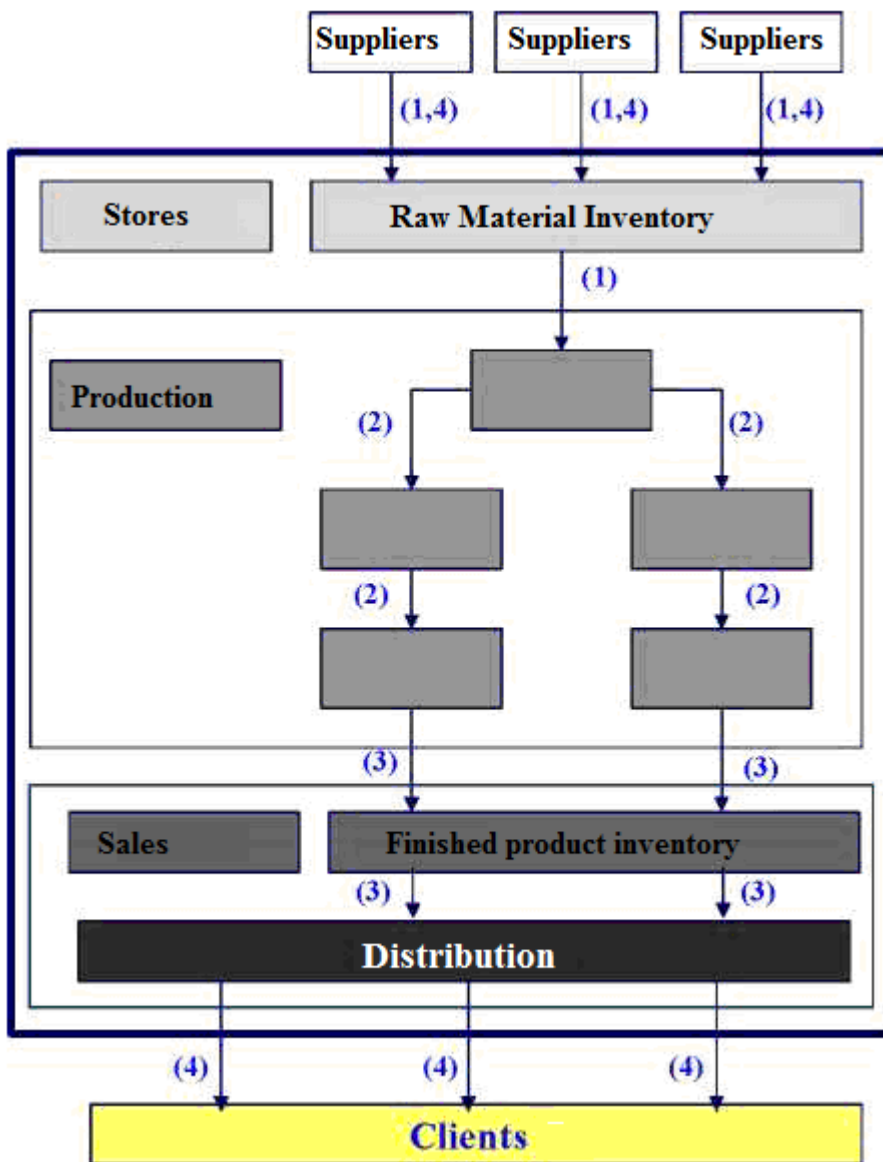
Figure 2.5. Types of Inventory

A relevant situation of this scheme is that inventory whenever material pursuing a new functional area, the products have a higher economic density, which makes more significant the need for better inventory management through the integration of processes across functional areas of the company and of course between suppliers and customers. In this case, it can help reduce the high capital costs of producing finished goods storage. In Figure 2.5, the shaded gray to black so the total intended illustrated.

Therefore, a common problem of inventory management, is based on determining at what point in the production process should be formed, and how should consist. The more processed goods are kept in stock, the lower the delay in delivery to customers, but the higher the cost of capital for storage; the opposite occurs with the less processed goods (in the form of raw materials in the extreme case).

The issue is more complex when the inventory system has multilink character. I.e., when the supply involves more than one element per link. For example, when there is more than one supplier that supplies components to a manufacturer for assembly, and that this in turn, send their finished more than a reseller products. This type of system is complex because each member link manage inventory levels.

Therefore, the coordination of inventories and flows becomes a key challenge in the management of the supply chain. The greater the number of elements per link, the higher the cost of storage in the chain, but a good coordination of inventories would even reduce losses by limited sales.

Based on the above, Hopp (2004) notes that supply chains can be structured in many different ways. Affirms that the same configuration is influenced by product design, market geography, customer expectations, as well as management decisions. In a specific structure can be many variations on strategies inventory, shipping policies, procedures and information communication and other parameters.

Some possibilities are shown in Figure 2.6 below. Note that the complexity that present management systems have multi-link currently receiving much attention.
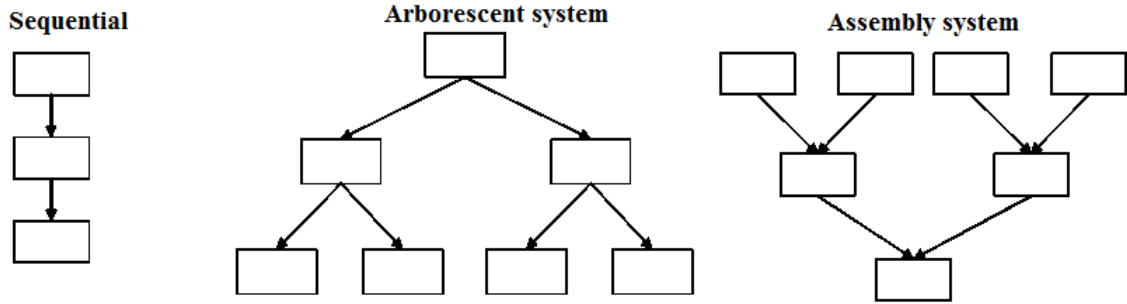
Figure 2.6. Example configurations of multi-link supply chain

From the point of view of the flow of raw materials and products in the production process, Hopp (2004) notes that inventories are given by the "bottlenecks " due to the intensive use of the resources (e.g., equipment, support services, etc.) causing queues due to capacity constraints.

Hopp (2004) states that changes in demand, processing time, delivery time and other factors also affect flows, requiring storage points (buffering) as inventory, capacity or time. It concludes that the variation mainly hits those resources that are highly used.

In the supply chain operation is very similar to production flows. Inventory points arising from the need to store products, make quick deliveries, reacting to changes in demand, or as a result of any management strategy are also presented. In this context, Hopp (2004) looks at the supply chain as a hierarchical inventory system, i.e., each link gets its inventory from the previous delivery and inventory at lower link (Figure 2.6.).

However, inventory management in the supply chain is a situation becomes very complex, and therefore, the study segment or decomposition is an alternative to the definition of adequate cooperation policies. Thus, one can think of dividing a complex supply chain into a series of simpler parts, consisting of a supplier that caters to a customer and they are really coordinated. This can help reduce this difficulty alone and is expected that the most appropriate strategies for coordination between each pair of links in the entire chain (Figure 2.7.) are developed.

Given the above, the problem could be more specific and could be typecast in determining, between the customer and the supplier where inventories should be? The answer to this question is obviously not simple since obviously no company will want to bear the costs it represents, therefore, the design of a management strategy between the parties is fully justified.
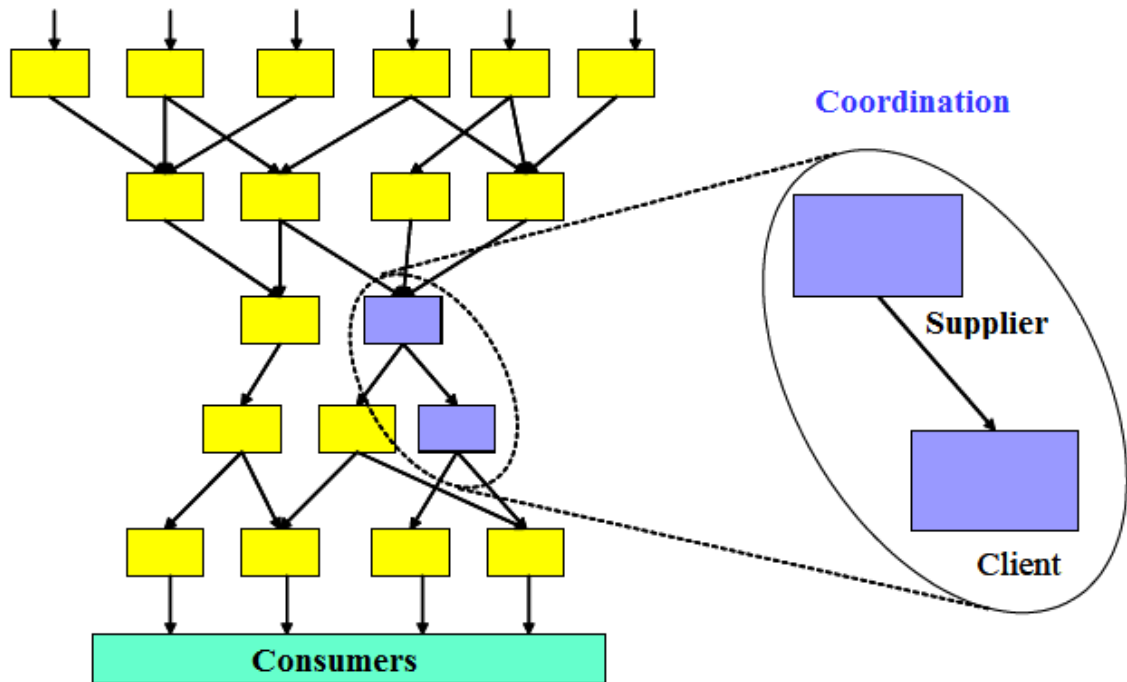
Figure 2.7. Segment study of supply chain

2.3.4.3.2 Relevance of the Customer-Supplier Coordination in the Inventory System

Effective coordination plays an important role in the successful operation of modern inventory systems. If there is no such coordination, provider and client act independently and make decisions that maximize their profits or minimize their individual costs. The result may not be optimal if we consider the supply chain as a whole (Chan and Kingsman, 2007). Therefore, the relevance of the coordination of inventory in the supply chain, lies in achieving joint outcomes that maximize the benefits of each of the members of the entire chain.

Among the aspects that supports customer-supplier coordination in the supply chain are shortening delivery times, increased reliability of deliveries, reduced costs (transportation, production, order), improvement in production scheduling and shipments, increased profitability of the chain, etc..

Currently, one of the most discussed topics is related to the coordination of inventories. For this purpose, they have developed a significant amount of models aimed at determining the optimal lot size and production order for the customer and the supplier, respectively.

Most inventory coordination models are immersed in inventory control theory of multi - link type, in the context of the problem known as "batch size" (Lot -Size Problem; LSP). In the field of supply chain (inter - enterprise approach), such a situation is obvious since it seeks to solve the inventory problem between suppliers and customers.

In general, inventory coordination models seek to evaluate the impact of the strategies on the performance of the supply chain, from the economic point of view and management. For example, reducing costs by processing orders, storing, lost sales, inventory in transit; and to determine the batch size, periods and amounts off the price of the products.

The mechanisms found for the coordination of inventories are diverse, and have been studied by a number of researchers have developed mathematical models under specific conditions and assumptions.

Given the above, it can be assumed that there is an interesting challenge in managing the supply chain to take place the highest level of coordination and integration of logistics activities within business units and among them, to achieve the best performance in the management and control of inventories in the entire chain that minimizes the total system cost (Lourenço, 2002).

2.3.5. The Essence of SCM

Although the term SCM was introduced by consultants in the early 80s (Fawcett et al., 2001), it was only during the 90s that several authors have tried to give it a structure and thus help lay its essence in a single definition. Including its components are (Stadtler, 2005).

- The purpose of the management philosophy
- The target group
- The objective (s) and
- Wide means to achieve these objectives

The purpose of SCM is the SC which is a "... network of organizations involved, through ascending and descending links in different processes and activities that produce value in the form of products and services provide the end customer" (Christopher, 1992). In a broad sense a SC consists of two or more legally separate, are linked by material

flows, financial and information agencies. These organizations may be companies producing parts, components and finished products or providers of logistics service and even customer (final). Thus, the definition given above of the SC also includes the target group - the end customer.

A network usually will focus not only on the flow of a string (unique), but generally will treat diverging and converging flow resulting in a complex network of many and different levels of customer to handle in parallel. To reduce the complexity, a given organization can focus on only one part of the overall SC. Such as looking in the downstream direction, the view of an organization may be limited by the customers of its customers while it ends with suppliers in the upward direction.

In a limited sense, the SC is also applied to large company with multiple locations often located in different countries (a multinational company). A SC is also called inter-organizational SC, however the term intra- organization relates to a SC in a narrow sense. Regardless of this distinction, a close collaboration between different functional units such as marketing, production, logistics and finance is required (Figure 2.8).

The objective governing all efforts in SC is seen as an increasing competitiveness. This is because no organizational unit is now only responsible for the competitiveness of its products and services in the eyes of the end customer, but the SC as a whole. Therefore, the competition has evolved from one company to the whole SC. Obviously convince an individual company to become part of a SC requires a win-win (win -win situation) for each participant in the long run, while this may not be the case for all entities in the short term. One obstacle generally accepted to improve competitiveness is that of providing a superior customer service. Alternatively, a company can increase its competitiveness by completing a pre-specified and generally accepted customer service with a minimum cost level (Ou et al., 2009).

There are two important ways to improve the competitiveness of the SC. One is the closer integration of the organizations involved and the other is a better coordination of material flows, and financial information. Control organizational barriers, parallel strategies and accelerate flows along the SC are common subjects in this respect.
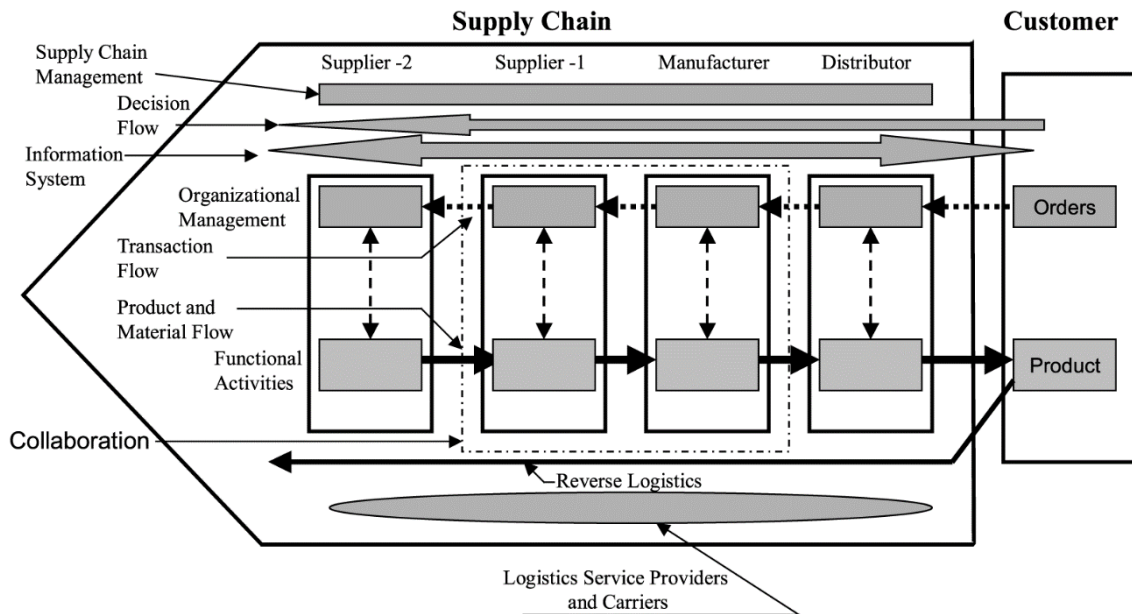
Figure 2.8. Model of Supply Chain Management
Source: Jan Mouritsen, Tage Skjøtt-Larsen, Herbert Kotzab, (2003) "Exploring the contours of supply chain management", Integrated Manufacturing Systems, Vol. 14 Iss: 8, pp.686 - 695

Based on this literature review and comparison of MTS professionals, we can define the term SCM as "the task of integrating organizational units along a SC and coordination of material flows, information and to meet the financial demands of customers (end) in order to improve the competitiveness of the SC in "together (Ai-Chin et al., 2011).

2.3.5.1. Principles for Managing Supply Chain

The implementation of these principles can balance the needs of customer's excellent service to the requirements of profitability and growth. In determining what customers want and how to coordinate efforts across the supply chain to meet these faster, cheaper and better demands (Anderson et al., 1997)

Principle No. 1:
Segment your customers based on the service needs of different groups and adapt the supply chain to serve these markets profitably.

Traditionally we have segmented customers by industry, product or sales channel and we have given the same level of service to each customer within a segment.

An efficient supply chain groups of customers for their service needs, regardless of what industry you belong and then adapts the services to each of these segments.

Principle No. 2:

Adapt logistics network service requirements and profitability of customer segments. When designing the logistics network must focus intently on the service requirements and profitability of the identified segments. The conventional approach to create monolithic networks is contrary to the successful management of the supply chain.

Even less conventional thinking about the logistics emerge in certain industries and clients that share geographic coverage resulting in redundant networks. By changing the logistics for complementary and competitive industries under the ownership of other companies, savings can be achieved for all industries.

Principle No. 3:

Watch for market signals and align demand planning accordingly with all the supply chain, ensuring consistent forecasts and optimal resource allocation. The sales and operations planning must cover the entire chain, looking for the timely diagnosis of changes in demand, detecting patterns of change in processing customer orders promotions, etc. This intensive focus on demand leads to more consistent forecasts and optimal resource allocation.

Principle No. 4:

Seek to differentiate the product as close to the customer. It is not possible to accumulate inventory to compensate for errors in sales forecasts. What we must do is to postpone product differentiation in the manufacturing process as close to the end customer.

Principle No. 5:

Manage sources of supply strategically. By working more closely with key suppliers to reduce the cost of materials and services, we can improve margins both for us and our suppliers.

The concept of squeeze suppliers and make them compete is not the way to go, now the trend is "win-win".

Principle No. 6:

Develop a technology strategy for the entire supply chain. One of the cornerstones of successful management of the supply chain is the information technology that must support multiple levels of decision-making and provide a clear view of the flow of goods, services, information and funds.

Principle No. 7:

Adopt performance measures for all channels. Measurement systems in supply chains serve to monitor internal functions, measurements that apply to each of the chain links be taken. Most importantly, these measurements contain not only financial indicators, but also help us measure service levels, such as the profitability of each customer, for each type of transaction, business unit, and ultimately, for every order.

These principles are not easy to implement, and require certain skills which in some cases are not naturally found in the logistics professionals. It takes a group effort of functional skills, with facilitator's qualities that integrate the divergent needs of manufacturing and sales, quality and price, cost, service and quality and financial measurements.

Should understanding of other areas of the organization broaden, you have to improve the knowledge of the functions of purchasing, product planning, marketing, sales and sales promotion, and must also develop a more intimate knowledge of their customers.

2.3.5.2 Materials Flow within the Company

For there to be producing products / services whenever there is a need to process raw materials, which will be transformed into finished products or services throughout the production process.

Both in primary enterprises, as in secondary or tertiary, the problem of managing materials is always crucial. Manufacturers or distributors (wholesale or retail) companies are constantly trying to locate, obtain, use and move materials to ensure their operations (Cook et al., 2011).

All materials companies are not static or detained: follow a relentless movement from receipt of the provider, go through the various stages of the production process until the finished goods warehouse. The materials come into the company, flow and pass through it, and come out as finished products to customers.

In this incessant movement is given the name of material flow. The entire production process involves a constant flow of materials. Almost always suffers some arrests the flow passes through some bottlenecks or production, in which the material is parked for a long time (Ferencikova, 2012). Bottleneck in production is the point where production is slower, so the material is stopped for longer.
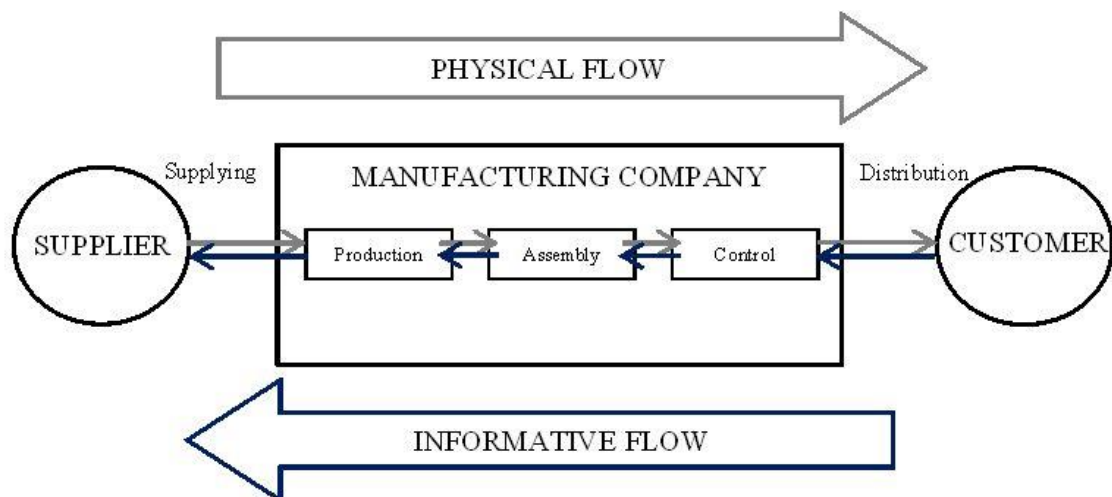
Figure 2.9. The material flow in the business
Source: Alberto Regattieri and Giulia Santarelli, 2013, Manufacturing Logistics and Packaging Management Using RFID.

From Figure 2.9, it can be seen that as they move through the production process, the materials undergo modifications, transformations, adaptations, reductions, etc., which gradually changes its characteristics. Become materials processing (in transit one section to another), then semifinished materials (saved after an operation for processing to or more products) and finished materials or (individual parts or subassemblies) components, to complete as finished products. Thus, the storage of materials until the deposit, as finished products, materials and undergo several successive modifications over the production process.

Each company has its own flow of materials, since it depends on the product / service, the production system used (custom production, production batch or continuous production) and production process. In some companies, the material flow is fast and simple, while others are slow and complicated.

2.3.5.3. Identification of Members of the Supply Chain

The members of a supply chain include all companies or organizations with whom the company acts Central Mutual, directly or indirectly through its suppliers or customers, from the point of origin to point of consumption. However, for a complex network more manageable is important to distinguish primary support members. According to the Supply Chain Council, and with the definition given by Davenport (1993). The primary members of a supply chain are all those autonomous companies or strategic business units that perform value-added activities, operational or management, business processes producing a specific output for a particular customer or market.

In contrast, the support members are companies that simply provide resources, knowledge and values for the primary members of the supply chain. For example, companies support include carriers, banks lending money, the owner of the building providing warehouse space, companies that provide production equipment, production of printed marketing brochures printing etc..

A company can perform both activities, primary and support. Similarly, the same company can perform primary activities related to process and support activities related to another (Koh et al, 2007).

For example, when a manufacturer purchases a supplier of production equipment, critical and complex, designed from a set of product development, the existence and

operation of the equipment for this new article says. Thus, the supplier becomes a parent member of the development process of the product manufacturer. However, it also becomes a support member, for providing the equipment itself does not add value to the performance of the process, but the computer itself add value.

It should be noted that the distinction between primary and support supply chain members is not very obvious in all cases. However, the aforementioned definition provides at least a reasonable administrative simplification that can capture the essential aspects of who should be considered as an important member of the supply chain.

Definitions of primary support member and to define the point of origin and the point of consumption in the supply chain. Note that at the point of origin of the supply chain, there is generally no primary provider, as all are considered as supporting members.

2.3.6. SCM Modules

An extensive search was conducted to find the best ways of SCM and optimizing its performance and thus represent modules. Among these representations is that proposed by (Mentzer et al., 2001), but the one that caught our attention and will be introduced to our work is that proposed by Stadtler, (2005) (see Figure 2.10 below). And this after his composition of a very recent module is advanced planning. In this representation the roof represents the ultimate goal of SCM - competitiveness - and the means - customer service. Competitiveness can be improved in several ways, for example by reducing costs, increasing flexibility with respect to changes in customer demands or providing top quality products and services.
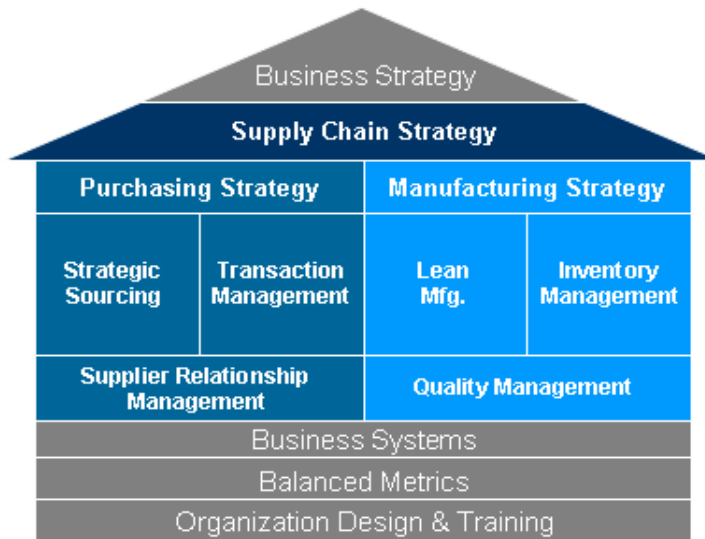
Figure 2.10. House of SCM

The roof rests on two pillars representing the two main components of SCM, namely the integration of a network of organizations and coordination of information, material and financial flows (Jie et al, 2007). The figure also shows that there are many disciplines that have established the basics of SCM.

The two main components which incur a degree of novelty will now be decomposed into their modules (Pardalos and Hearn, 2005). First, the formation of a SC requires the selection of appropriate partners for a combination of means (long) term. Secondly, to become effective and successful organization network, consist of legally separate organizations, called in practice inter-organizational collaboration. Third, inter-organizational SC, new control concepts (leadership) parallel strategies of partners involved are important.

Coordination flows along the SC can be performed efficiently using the latest developments in information technology and communication (Ayers and Odegaard, 2008). These automate processes previously performed manually. The orientation process incorporates a new and often followed by a calibration of the new process design (Zentes et al., 2007).

To execute customer orders, availability of materials, staff, machines and tools must be planned. Although the planning of production and distribution as well as the purchase was implemented for several decades, they have been most of the time limited in scope. Coordination plans over several legally separate sites and organizations

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represents a new challenge that is raised by advanced planning (systems) (Blanchard, 2009).

2.3.7. Analysis of Supply Chain

2.3.7.1. Performance Measurement

Performance measures have two jobs and decisive effects. First, they can be used to describe the current situation. In this context, it helps to describe the past and present of the process being considered. On the other hand, they can be used to set performance goals. This will establish a focal for the future.

2.3.7.1.1. Indicators and Indicator Systems

Indicators are defined as the numbers that inform a clearly defined criteria regarding ad hoc manner. Their vocations are to provide decision- lighting the main actors of a responsibility center. From this point of view, the indicators do not all have the same timing with respect to the decision. We can, in fact, say two types of indicators (Ayers and Odegaard, 2008):

- The indicators ex ante vocation to help the decision to come (e.g. indicator of overall forecasting load or resource category); such indicators is found almost exclusively in the dashboard control (operational management of short term);

- Indicators oriented ex post to assess the quality of past decisions; that is, this type of indicator is interesting to use in the preparation of decisions, mainly in the context of simulations designed:

• Either to help in making operational decisions assisted by SIAD (interactive system decision support); such use is interesting therefore that the decision to take is complex and involves consideration of several points of view.

• Or to test the validity of alternative control strategies of the production system in the analysis of design

Among the indicators used are distinguished absolute numbers (e.g. net income, cash flow, number of employees) and relative numbers (ratios), the latter being the most commonly used. A ratio can take three forms: an average (unit revenue, etc.), A percentage or index (expressed relative to a reference value taken to base 100).

Indicators are useful for describing and simplifying complex systems. Insofar as they allow us to observe changes in the process over time by comparing their respective values in different periods. Another feature indicators is that they are highly functional. Moreover, three functions can be assigned to them (Ayers and Odegaard, 2008).

Informer. Their main purpose is to inform management. In this function, the indicators are applied to support decision making and to identify problem areas. Indicators can be compared to the standard or target values .

Direction. Indicators are the basis for setting targets. These objectives guide the process considered responsible for achieving the desired results (decisions of action for improvement).

Control. Indicators suitable for the inspection of operations and processes.

The main drawback inherent indicators is that they have only agreed to describe quantitative facts.

The main requirement of the user of the indicators is the correct interpretation of their values . In addition, the lighting provided by an indicator cannot be called a decision that lighting insofar ton is able to establish causal relationships between indicators and levers available to players that drive the system control.

Often, it is not a single indicator but indicator systems that are applied. Indicator systems resulting from the aggregation of different indicators. Three levels of indicator systems can be distinguished (Stadtler, 2005).

Calculation plane. Any indicator that is part of a plan calculation is linked to other indicators of mathematical formulas. The calculation planes often take the form of a pyramid with a parent above indicator, broken down into less aggregated and operational indicators to the bottom.

Plan rule. Indicators that form a plan rule are also linked by mathematical formulas. In addition they are connected on the causal model of the process or the operation described. Plans rule intended to provide a complete description of the process considered.

Plan objective. Indicators of an objective plan are freely linked. They are obtained from the objectives set by the management company. Indicators that can be related directly to these objectives, or correlate with, are applied.

The system most widely known indicator is the DuPont system of financial control back to 1919. It is based on a calculation scheme with ROI (Return On Investment) as the primary indicator of the pyramid.

Indicators and systems of indicators are based on financial data, as they have been widely available for a long time. The improvement in terms of financial performance, which was caused by the application of SCM success can be measured by these indicators. However, to remain competitive, some additional and more appropriate measures of performance of the SC should be derived (product innovation / process knowledge sharing with employees (management partnerships), management of information flows and the evaluation of their performance against potential threats and / or alternative market ("improved SCM"), including the extent that the key points of SCM are customer orientation, integration units organizational and coordination.

The transition to the incorporation of non-financial measures in assessing the performance of the business is widely accepted. Kaplan and Norton (1992) were the first to introduce the concept of "Balanced Scorecard (BSC)" which attracted wide attention not only in literature but also in practical applications. In addition to financial measures, Table has a perspective (axis) client, a study and innovation (learning and growth) and an internal perspective.
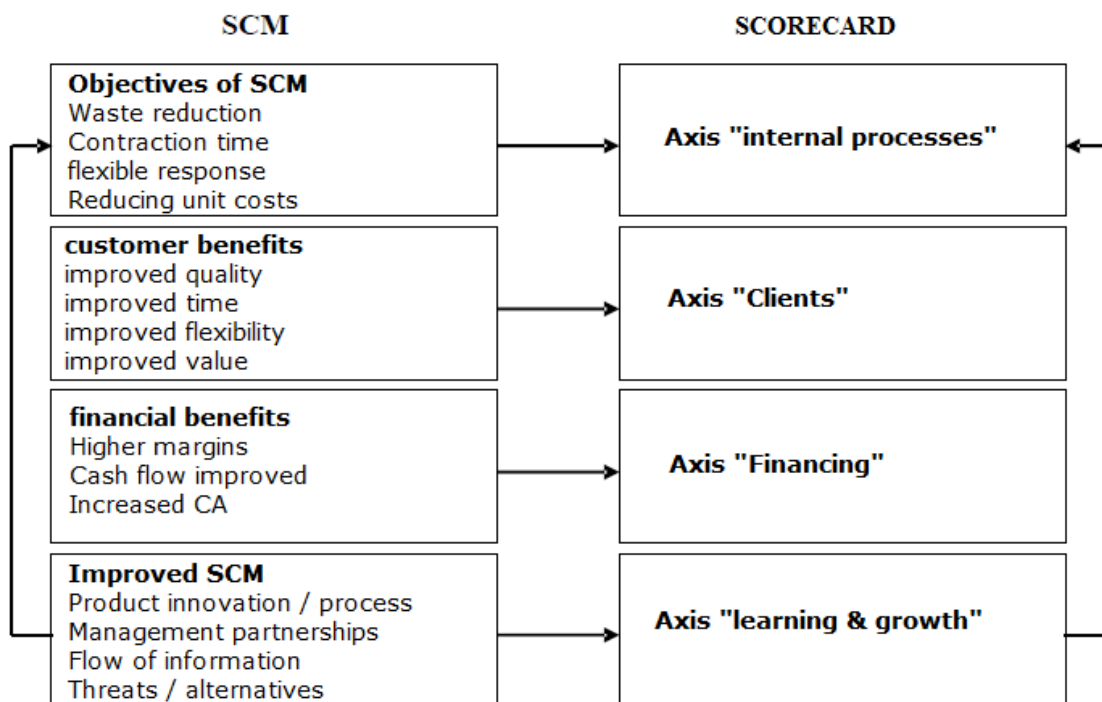
Figure 2.11. Link between Supply Chain Management and the Balanced Scorecard
Source: Brewer, 2001, p. 57

These perspectives include a set of measures in a management report that provides a deeper insight into the performance of a company. The measures chosen depend on the situation that the company faces. Figure 2.11 shows the link that connects to the SCM Scorecard.

2.3.7.1.2. Key Performance Indicators (KPI - Key Performance Indicators) of the SCM

In the SCM comprehensive view of the overall performance of the SC is required. Therefore the indicators should not be defined, only, about entities but should also reflect their shared goals.

The need for this overview on the performance of the SC is widely recognized. Another valid SC analysis tool is the SCOR model. This model takes an integrated view of the SC as a whole, emphasizing the metric not only financial, but especially non-financial. Another model to measure the strategic, tactical and operational performance in the SC structure is presented by (Gunasekaran et al, 2001), which also provides a comprehensive listing (extensive) performance metrics.

Although each SC is unique and may require special treatment, there are some performance measures that are applicable in most settings. In the following paragraphs, these will be presented as key performance indicators. While they address different aspects of the SC, they are grouped into four categories corresponding to the following attributes: delivery performance, sensitivity SC, assets and inventory, and costs.

2.3.7.1.2.1. Delivery Performance (Reliability)

Since customer orientation is the key component of SCM, reliability of delivery is an essential measure for the overall performance of the SC. As promised delivery dates may be too late in the eyes of the customer, hope or even demand will set the goal. Therefore the delivery performance must be measured in terms of actual delivery time compared to the delivery date requested by the customer (Ayers and Odegaard, 2008). Increasing delivery performance can improve the competitive position of the SC and

create additional sales. Therefore, various levels of service indicators are called distinguished in literature inventory management (Zentes et al., 2007). The first, called service level (time) is a measure oriented event. It is defined as the probability that an incoming order can be fully accomplished stock. Generally, it is determined with respect to a predefined period of time (e.g. daily, weekly or order cycle). Another performance indicator is the amount directed by the level of service B (part), which is defined as the proportion of incoming order quantities that can be accomplished in the inventory on hand. Unlike the level of service, service level B takes into account the extent to which orders cannot be made. The level of service is a measure of the quantity and oriented time. It has two aspects: the amount that cannot be met through the stock and the time it will take to meet the demand. Therefore it contains the time information not considered by the service level B. The exact definition is (Elkin, 2007):

$$\text{Service Level } y = 1 - \frac{\text{Average demand unmet at the End of Period}}{\text{Application Period Average}}$$

The rate of execution (performance) of order (fill rate) as defined in the SCOR model is closely related to the level of services and can be described as the percentage of stock orders shipped within 24 hours.

In addition, on-time delivery (on time delivery) is an important indicator. It is defined as the percentage of orders delivered on the day before the date desired by the customer.

A percentage of deliveries less time indicates that the promise of order is based on an unrealistic level (production) or due to non- execution of the production or transportation schedule (Pengzhong, 2011).

Measuring the accuracy of predictions (forecast accuracy) is also admissible. The accuracy of the prediction connects the quantities provided for actual quantities and measures the ability to predict future requests. Better predictions of customer behavior usually leads to smaller changes in production plans and distribution already established.

Yet another important indicator in the context of the performance of the delivery lead time order. The time to order far from the point of view of the customer, the average time interval from the date the order is placed on the date or the customer receives the shipment. Shortening the time becomes important in competitive situations. However, not

only the time but also reliable time satisfy customers and lead to a strong, although the two types of time (shorter against reliable) have different aspects of cost.

2.3.7.1.2.2. Responsiveness (Response Time) of the SC

Responsiveness describes the ability of the entire SC to respond to market changes. The SC should respond to changes in a critical part of proper time to ensure their competitiveness. To measure this sensitivity, flexibility measures must be presented to enter the building, the extent and speed of adaptations (Li et al, 2006). These indicators measure the ability to change plans (flexibility in the system) and even the entire structure of the SC (system flexibility) (Hsu et al., 2009). An example in this area is the flexibility of the upstream production as measured by the number of days required to adapt to an unexpected 20% increase in demand.

Another indicator in this area is the cycle of planning, which is simply defined as the time between the beginnings of two subsequent planning cycles. The long cycle times of the planning plane prevent reflect real changes. In particular, the actions planned at the end of the planning cycle can no longer adapt to the actual situation, they are based on old data available at the beginning of the cycle. The cycle time must be determined based on the aggregation level, the horizon and the force of the planning process (Hatmoko and Scott, 2010).

2.3.7.1.2.3. Assets and Inventory

Measures of the assets of SC should not be neglected. A common indicator in this sector is the return of capital, defined by dividing income by total assets.

Another indicator is the inventory returns, defined as the ratio of total material consumption per time period to the average inventory for the same period of time level.

Finally, there is the age of the inventory (inventory age) (Singh, et al., 2010). The age of the inventory is determined by the average time resident of goods in stock.

2.3.7.1.2.4. Costs

Here, the focus is on measures based on cost. Cost of goods sold should always be supervised with a focus on the substantial process of SC. Therefore, an integrated

information system running on a common database with a system of mutual cost accounting can prove to be an essential part of the SC.

Furthermore, productivity measures usually aim at detecting conductors cost in the production process (Pengzhong, 2011). In this context, the productivity value of employees is an indicator to analyze the value that each employee adds to all products sold.

Finally, one should observe warranty costs, being an indicator of the quality of the product. Although warranty costs depend heavily on how the treatment guarantee is followed, it can help to identify problem areas (Elkin, 2007). This is particularly important because the top quality of a product is not a typical feature of SC but a management principle of conduct in general.

2.3.7.1.3. Terms of Use of Indicators

There are many circumstances that arise in using the indicators to SC (Ayers and Odegaard, 2008):

Definition of indicators. Because the scope of the SC is usually over several companies or at least several entities within a company, a common definition of all indicators is mandatory. Otherwise the comparison of indicators and their uniform application will be counterproductive.

Perspective on indicators. The view on the indicators could be different considering the roles of the two partners of the SC, the supplier and the customer. Provider may need to calculate the satisfaction of order based on the date of receipt and date of dispatch of the order, because it is a time that can be ordered. From the point of view of the customer base would be the date of application and the date of receipt to the customer's warehouse. If the dates of the supplier and the client do not match, this will lead to different results with regard to the agreed rates or other sufficiency. That is why both should agree on a perspective.

Data collection. The data required to calculate the indicators should be collected in a uniform manner throughout the SC. The uniformity regarding the units of measurement and availability of (current) current data for the partners of the SC are essential. In addition, the perfection (Completeness) of the data used is mandatory, i.e. d.

all necessary data should be available in appropriate and accessible by the members of the SC systems.

Confidentiality. Privacy is another major issue when there is more than one company which forms the SC. Because all partners are separate legal entities, they may not want to provide full information on their internal processes to their partners. In addition, it could be a few goals that are not shared among the partners.

2.3.7.2. Inventory Analysis

In thought attributed to the philosophy of "just in time "processes are aligned such that almost no stock is required. But this is only possible in a few specific industries or certain sections of the SC and for selected items.

In all other cases, the stock is required, therefore there is a need for effective ways of controlled. Stocks in SC are always the result of input and output process (transport, production, etc.). This means that isolated minimization is not a rational objective of SCM, instead they should be managed at the same time as the corresponding process of SC (Ayers and Odegaard, 2008).

Stocks because of costs, but also provide benefits. Thus, the problem is finding the right difference between holding costs and benefits.

The stock is broken down into different components depending on the reasons for his detention. The most important components are shown in Table 2.1. and will be described in the following paragraphs. The distinction of stock components is necessary to

- Identification of benefits
- Identification of the determinants of the level of stock, and
- Adjustment of the objective inventory levels (e.g. APS).

In the following paragraphs we will show the reasons, benefits, and determinants of some important components.

Table 2.1. Stock Component, Determinants and Benefits

Stock Component	Determining causes	Benefits
Stock production by lot size	Installation Frequency	Reducing time and cost of installation
Transport stock by lot size	Quantity Shipping	Reducing transport costs
Inventory in transit	Transport time	Reducing transport costs
seasonal inventory	Peak demand, tight capacity	Reducing costs for overtime and investments
Work in process	Lead time, production planning and control	Increased use, reduced investment in additional capacity
safety stock	Demand uncertainty and lead time, process uncertainties	Increased level of service, reduced costs for critical shipments and sales disorient

2.3.8. Modelling the Supply Chain

2.3.8.1. Modelling Approaches of Supply Chain

Generally, modelling approaches in SCM can be categorized into five classes:

2.3.8.1.1. Method of Network Design SC

This method determines the location of production facilities, storage and supply and routes that take the products. The first work in this area, although the term "SC" has not been in vogue, were made by (Geoffrion and Graves, 1974). They presented a model of logistics network design multi-product, to optimize flow of finished goods from factories, distribution centers and end users. (Geoffrion and Powers, 1995) later gave a

review of the evolution of distribution strategies over the last twenty years, describing how their first model can be adapted to many levels and products.

2.3.8.1.2. MIP Optimization Models

Many important models SC fall into the class MIP (Mixed Integer Programming). This includes most models of location and size of facilities, tracking and scheduling of shipments, cargo consolidation and choice of transport mode. The MIP models are often difficult to optimize, because there may be a number of possible alternatives exponential decision. Some problems are non- linear MIP. For example, the global model on the problem of locating facilities presented by (Hodder and Dinçer, 1986), which is very difficult if not impossible to solve. (Cohen et al., 1991) have presented a multi-product MIP model to find the arrival of raw materials, product allocation and specification of volumes of production and delivery of finished products in a production-distribution network flow. The model contains binary variables for assigning the product installations and for determining the part of the concave curve of the production costs to be applied. The research results show that it is frequently difficult to obtain global optimal solutions unless a special structure exist. An alternative generalized Benders decomposition technique is applied.

2.3.8.1.3. Stochastic Programming and Robust Optimization Methods

Stochastic programming deals with a class of models and optimization algorithms in which data may be subject to significant uncertainty. The uncertainty is usually characterized by a probability distribution on the parameters. Such models are appropriate when the data evolve over time and decisions must be made before observing the entire data stream.

Swaminathan et al., (1998) provided models of stochastic programming and efficient IT processes to study common stocks of components, and the effect of sequencing assembly tasks on operational performance. They also used the inherent structure of the problems to develop efficient computational algorithms based on sub-gradient methods.

In robust optimization, data uncertainty of the problem is treated as deterministic, unknown but related (eg, via confidence intervals of the data).

Sahinidis (2004) have developed a robust optimization framework for the problem of planning the SC in the process industries. Since the formulation of the standard stochastic programming problem does not address the variability of the uncertain costs of alternatives through the uncertain parameters of the scenario, they extended the formulation of stochastic programming to develop robust cost choice by using an appropriate standard of variability. To overcome the difficulty associated with the resolution of robust models that include inseparable words, they have developed a heuristic method for restricted formulation of the solution. This method requires robust method iteratively while solving the stochastic standard program in each step. Their models can provide the decision maker a tool to analyze the difference related to expected earnings and its variability.

2.3.8.1.4. Heuristic Methods

Heuristic is another important class of methods for generating alternatives and decisions of the SC. A heuristic is simply any intelligent approach that tries to find good solutions or plausible. These heuristics are generally used in solvers planning tactical and operational level

The heuristics used in the planning and scheduling of the SC include general random research approaches such as genetic algorithms and taboos algorithms. Recently, the theory of constraints is also used in the operational planning for the SC.

2.3.8.1.5. Methods Based on the Simulation

It is a method by which a complete model of the SC can be analyzed by considering its strategic and operational elements. This method can evaluate the effectiveness of a pre- specified prior to develop new policy.

The dynamic nature of the SC makes the simulation methods necessary to study the time - varying behavior of SC. As suggested by (Swaminathan et al., 1998), the reengineering of the SC due to dynamic business becomes a necessity, but it is not an easy task. The use of simulation as a vehicle to understand the conditions of decision making in the organization has taken attention and considerable momentum in recent years (Maloni and Benton. 1997). (Swaminathan et al., 1995) have used simulation to study the effect of information sharing ATP supplier.

2.3.8.2. The SCOR Model

SCOR (Supply Chain Operations Reference Model) model (the current version is 8.0) is a normative method and tool of representation, analysis and flow configuration of a company in the optical SC. It was created in 1996 with the sponsorship of two consulting firms AMR and Pittiglio Rabin Todd and McGrath (PRTM), as well as more than 65 majors, as part of an organization nonprofit: SCC (Supply Chain Council). The objective was to develop a method for describing the logistics of a manufacturing company and indicators to measure the effectiveness and therefore comparisons between participating companies perform. SCC now has approximately 1,000 members (including government, academics, manufacturing, consultants and technology providers) worldwide.

The SCOR model is a reference model. Unlike the optimization models, no formal mathematical description of the SC and no optimal or heuristics to solve a problem is given. Instead, terminology and processes are standardized by allowing a general description of the SC. It is based explicitly on the well-known concepts of reengineering that analyzes existing and proposed a target solution, benchmarking, which compares the performance of similar companies, and objective research best practices from measures performance, in a " cross-functional ".

2.3.8.2.1. Standard Terminology

The use of standardized terminology, which defines and unifies the terms used, improves communication between entities of a SC. Because regularly not unify the definitions of a term lead to false ideas or supposition. Therefore, SCC has established a standard terminology for the SCM. SCOR model in about 120 words, called terms of process (process terms) are defined in a glossary.

2.3.8.2.2. Levels of the SCOR model

The SCOR model consists of a system of process definitions that are used to standardize processes that relate to SCM. CSC recommends a model for SC suppliers to customers' customers.

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Four management processes form the core of SCOR and we preferred to keep the American terms here, even to translate, in order to respect the presentation of (Supply Chain Council, 2006) (Figure 2.12):

- Plan: plan or control as appropriate (different time scale).
- Source: supply from an internal or external provider.
- Make: manufacture, assemble, produce.
- Deliver: distribution inverse operation Source
- Return

Each intersection of two execution processes (Source - Make - Deliver) is a link to the SC:

- An implementation process transforms or transports raw materials and / or products;

Supply Chain Operations Reference Model
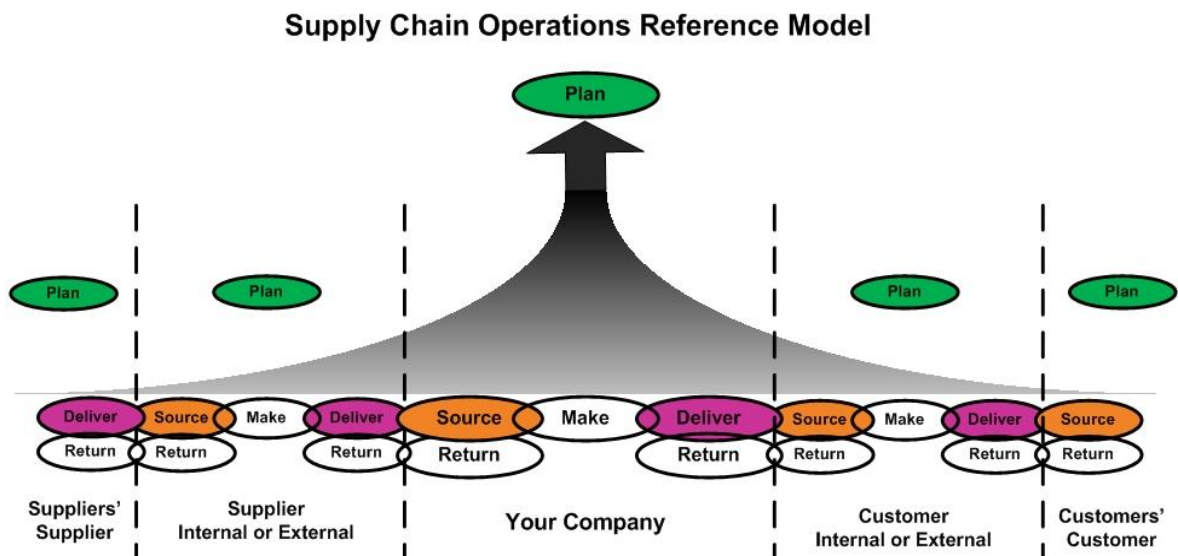
Figure 2.12. The four basic processes of SCOR
Source: Yildirim Yilmaz, Umit Bititci, (2006) "Performance measurement in the value chain: manufacturing v. tourism", International Journal of Productivity and Performance Management, Vol. 55 Iss: 5, pp.371 – 389

Planning processes are managing these supplier-customer relationships:

- The planning process (or control) "balance" the SC, that is to say, provides the balance between the inputs and outputs for each time period;

- Each intersection of two execution process requires a process control or planning.

2.3.9. Key Success Factors of the Supply Chain

Key factors in the successful operation of the supply chain are numerous. We have tried to group them by themes. We address first the need for an efficient information and an organizational structure for the flow of information and change management, management skills and finally the system performance evaluation of supply chain system (Pengzhong, 2011).

These success factors are paramount and must be complete to allow the company to generate competitive advantages.

2.3.9.1 The Information System

The ability of the company to implement an efficient information system using recent developments in information technology and communication will determine the performance of the Supply Chain.

We can characterize an information system by three key dimensions: spatial integration of functional integration degree, degree and integration of decision support systems.

2.3.9.1.1. The Degree of Functional Integration

It concerns the extent of the value chain covered by the information system from the customer's customer to supplier.

This functional integration is characterized by an architecture of the information system that allows real-time communication between the various links in the value chain (internal and external to the company). Theoretical solutions to such functional integration are ERP systems or ERP for the internal value chain and the exchange of computerized or EDI for external data connections (Pardalos and Hearn, 2005).

Information reflecting the needs of the end customer back by the commercial information system responsible for managing the customer relationship management (Customer Relationship Management: CRM), ERP globalizing needs, planning resources

and address the supply requirements via the information responsible for the relationship with suppliers and subcontractors system (Gilaninia et al., 2011). The information is automatically transferred from one system: this is what ensures its reliability, security and will be a factor in reducing production costs.

2.3.9.1.2 The Degree of Spatial Integration

It means the ability to electronic relationship remote geographic locations, or because they belong to the same industrial group, either because they are partners: customers, suppliers, service providers.

Relationship building electronic exchange can be done by simple exchange of faxes, e -mail or complex EDI systems. These systems save time and significant cost and are essential to the implementation of lean (Scavarda et al., 2006).

Today, with the rise of fast internet, the interconnection of information systems should not pose major problems as long as you want to interface its information system with a web server.

However, the development of the internet goes far beyond this simple interconnection (Ai-Chin et al., 2011). Indeed, it also promotes the interpenetration of information through the development of extranets systems: the client can set its expression needs web server that can come visit authorized providers (Sukati et al., 2012). These can track their client's inventory levels and trigger replenishment.

But the operational activities are not the only ones concerned. Engineers, consultants, customer and supplier can work integrated virtual team: they can exchange files computer-aided design (e- collaboration) (Sundram et al., 2011).

The development of the internet can also help "spread "the purchasing function within the company. Indeed, internal clients can through electronic catalogs, place orders on the terms negotiated by the purchasing department which devotes sourcing, negotiation of framework agreements and management of Strategic Purchasing (Storey et al., 2006).

2.3.9.1.3 The Degree of Transactional Integration / Decision

The decision support system is responsible for operations management and strategic management assistance. It must provide managers with the information on the

nature and form correspond to their decision-making needs, whether tactical level (Gilaninia et al., 2011): dashboard and monitoring supplier performance, simulation tools for the calculation of net requirements taking inventory account and available capacity or strategic level forecast market developments, to help investment decisions, etc..

Decision information system is built on large databases (data warehousing), the large capacity allows you to store important historical. This information is updated daily based on information from transactional information system.

To summarize the contribution of information systems, we can say that through the combination of Internet and Extranet development, the ideals of SCM systems have the following characteristics (Ayers and Odegaard, 2008):

• Centralized coordination of information flows

• Total Logistics Management for the integration of transport, control and industrial systems

• Flexibility commands for adaptation to changes in production, logistics and storage

• Total Asset Visibility transport without national or organizational boundaries

• Overall management of stocks and ability to track the movement of products

• Global Sourcing

• Access to multi- information

• Fully automated data exchange

• Full traceability information

• Improved customer / supplier relations.

2.3.9.2 The Organizational Structure and Change Management

The ability of the company to design the organizational structure able to support the functioning of the supply chain is an essential condition of success. Indeed, this concept should not be limited to technology alone, it is a model of organization in question.

Although the evolution of structures must obviously take into account the history of the company and the environment in which it is located, it remains a considerable energy must be committed to the necessary changes can be achieved.

In a company like Supply Chain, organizational choices should focus on the coordination of cross- process and therefore a significant reduction in the number of hierarchical levels (Levy and Weitz, 2011). Indeed, the positions whose sole function was relaying information to the hierarchy become useless. The structure function must give way to an organization promoting dialogue, sharing, circulation and reporting.

Relational practices with the suppliers involved in the chain upstream of value must also be modified. We can distinguish two types of changes in the management of supplier relationship (Pardalos and Hearn, 2005):

- Providers with whom a strategic alliance was formed: the action of co-development, high cost of special equipment... These providers are generally mono-source and the partnership agreement will result in a vertical quasi-integration. Information systems are strongly coupled, the provider will participate in groups of internal projects.

- Suppliers who represent a significant portion of total purchases for non-strategic products, but for which the integration Supply Chain is required to obtain an optimization of the efficiency and responsiveness. There is no partnership agreements but commitments on annual volumes. They are virtually integrated by information systems: EDI, extranet, real-time management of customer etc. stock.

2.3.9.3 The Management Skills

Of all the key success factors of the supply chain, one of the most important is the development of human resources through skills management. Indeed, the management of organizational knowledge is the foundation skills that the company must constantly mobilize and develop in order to support the continuous and widespread innovation process (Zhang, 2007): products, processes, organizational solutions. This is the condition that ensures the company's sustainable competitive advantages.

The purchasing function is doubly relevant: firstly it is involved in the decisions to produce or buy, in redefining the heart of competence of the company and the management of outsourced resources (Ayers and Odegaard, 2008). On the other hand, knowledge of upstream markets allows him to identify the sources of knowledge that characterize strategic suppliers.

There are four levels of organizational knowledge creation:

• Individual

• Group,

• Organization

• International organization.

Strictly speaking, knowledge can only be created by people. The organization provides an environment that enhances knowledge creation and crystallizes in a network. This process develops in community interactions across borders within and across organizational boundaries. It is at this level that the purchasing function should play a privileged role of mediator, knowledge exchange between the company and its network of suppliers (Hübner and Elmhorst, 2008).

The buyer creates knowledge for his company by participating in the research groups of the value involving suppliers early in the design phase.

2.3.9.4 Measuring System Performance

The performance of the Supply Chain and the realization of many competitive advantages will stick to the ability of the company to maintain its suppliers and itself a high level of performance (Li et al., 2006):

• have low levels of stocks without risking damage to the level of service

• maintain quality at a high level

• timeline for getting shorter

• organize all the links in the chain so as to improve the flexibility and responsiveness

However, in terms of cost, effort should focus on the overall cost and not on the cost of purchase. Indeed, the purchasing function should not be judged solely on its ability to obtain improvements in the cost of purchasing the strict sense, but all the cost savings it will be able to get on all downstream processes and it influences all elements of value that helps to bring the final customer.

It is necessary for the company to develop a system for measuring performance of the chain in terms of contribution to the overall performance of the integrated chain to understand the overall efficiency of the Supply Chain (Hsu et al., 2009). Local optimization of a link can be cons -productive by the perverse effects of other links

because of the interdependencies between the various components of the value chain (Hatmoko and Scott, 2010).

To conclude this approach to key success factors of supply chain operation, we can say that management is not limited to the implementation of information systems, as sophisticated as they are (which is necessary but not sufficient), but truly of organizational and human project.

2.3.10. Upstream Supply Chain versus Downstream Supply Chain

Ayers and Odegaard (2008) state that a possible source of confusion is the use of the terms upstream and downstream with regard to supply chains. Upstream relates to operations that precede a point of reference. Downstream operations, on the other hand, follow points of reference. Upstream supply chain is the transactions between an organization and its suppliers and intermediaries, equivalent to buy-side e-commerce. Downstream supply chain is the Transactions between an organization and its customers and intermediaries, equivalent to sell-side e-commerce. (Chaffey, 2009) For most commercial and not-for-profit organizations Chaffey (2009) distinguishes between upstream supply chain activities which are equivalent to buy-side e-commerce and downstream supply chain activities which correspond to sell-side e-commerce.
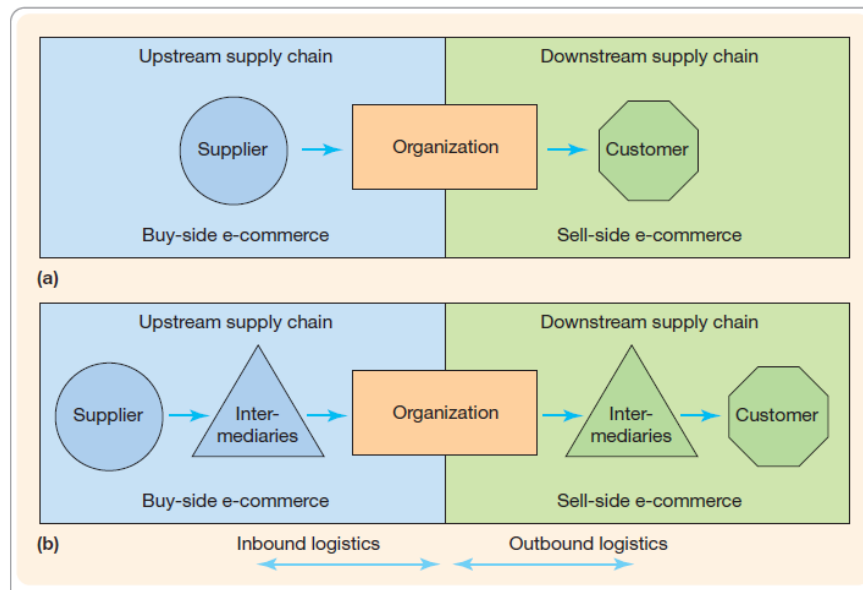
Figure 2.13. Members of the supply chain.

2.3.11. Supply Chain Management Practices

SCM practices are defined as the set of activities undertaken by an organization to promote effective management of its supply chain (Li et al., 2006). Li et al. (2005, 2006) propose SCM practices as a multi-dimensional construct that includes both upstream and downstream sides of the supply chain.

Min and Mentzer (2004) identify long-term relationship, information sharing, vision and goals, risk and award sharing, cooperation, process integration, and supply chain leadership underlying the concept of SCM. Li et al. (2005, 2006) identified strategic supplier partnership, customer relationship, and information sharing as key SCM practices.

Thus the literature portrays SCM practices from a variety of different perspectives with a common goal of ultimately improving organizational performance. In reviewing and consolidating the literature, three distinctive dimensions, including strategic supplier partnership, level of information sharing and quality of information sharing are selected for measuring upstream SCM practice. Level of information sharing and quality of information sharing practices are considered from the point of upstream side in this study. The three constructs cover upstream sides of a supply chain in e-tailing. It should be

pointed out that even though the above dimensions capture the major aspects of upstream SCM practice, they cannot be considered complete.

Strategic supplier partnership is defined as the long term relationship between the organization and its suppliers. It is designed to leverage the strategic and operational capabilities of individual participating organizations to help them achieve significant ongoing benefits (Li et al., 2006). Gunasekaran et al. (2001) assert that a strategic partnership emphasizes long-term relationship between trading partners and promotes mutual planning and problem solving efforts. Strategic partnerships between organizations promote shared benefits and ongoing collaboration in key strategic areas like technology, products, and markets (Yoshino and Rangan, 1995). Strategic partnerships with suppliers facilitate organizations to work closely and effectively with a few suppliers rather than many suppliers that have been selected solely on the basis of cost.

Porter (1980) suggested that co-operation can enable partners to achieve a stronger position together than they can alone.

Globalization (includes global sourcing) has forced companies to manage their supply, manufacturing, and logistics more effectively. Mentzer et al. (2001) suggests that the key to effective management in the global environment is to have closer relationships with suppliers.

Immediate supplier relationship activities play a vital role in developing effective SCM strategies (Wisner, 2003). Long-term relationship does not refer to any specific period of time, but rather, to the intention that the arrangement is not going to be temporary (Chen and Paulraj, 2004). Through close relationships supply chain partners are willing to (1) share risks and reward and (2) maintain the relationship on a long term basis (Landeros and Monczka, 1989; Cooper and Ellram, 1993; Stuart, 1993).

Level of Information sharing refers to the extent to which critical and proprietary information is communicated to one's supply chain partner (Li et al., 2006). Mentzer et al. (2000) mention that shared information can vary from strategic to tactical in nature. It can be pertaining to logistics, customer orders, forecasts, schedules, markets, or more.

Information sharing refers to the access to private data between trading partners thus enabling them to monitor the progress of products and orders as they pass through various processes in the supply chain (Simatupang and Sridharan, 2002). Simatupang and

Sridharan (2005) bring forth some of the elements that comprise information sharing, including data acquisition, processing, storage, presentation, retrieval, and broadcasting of demand and forecast data, inventory status and locations, order status, cost-related data, and performance status. They further add that information sharing pertaining to key performance metrics and process data improves the supply chain visibility thus enabling effective decision making. Information shared in a supply chain is of use only if it is relevant, accurate, timely, and reliable (Simatupang and Sridharan, 2005). Information sharing with trading partners enables organizations to make better decisions and to take actions on the basis of greater visibility (Davenport et al., 2001).

Availability of accurate and up-to-date marketing data at every node within the supply chain is a key to create a seamless supply chain (Childhouse and Towill, 2003; Balsmeier and Voisin, 1996; Towill, 1997; Turner, 1993). Lalonde (1998) regards information sharing as one of key element that characterizes a strong supply chain relationship. Yu et al. (2001) point out that the negative impact of the bullwhip effect on a supply chain can be reduced or eliminated by sharing information with trading partners. Lalonde (1998) regards information sharing as a key to creating strong supply chain relationships.

Quality of information sharing includes such aspects as the accuracy, timeliness, adequacy, and credibility of information exchanged (Moberg et al., 2002; Monczka et al., 1998). While information sharing is important, the significance of its impact on SCM depends on what information is shared, when and how it is shared, and with whom (Chizzo, 1998; Holmberg, 2000).

Literature is replete with example of the dysfunctional effects of inaccurate/delayed information, as information moves along the supply chain (Lee, 1997; Metters, 1997). Divergent interests and opportunistic behaviour of supply chain partners, and informational asymmetries across supply chain affect the quality of information (Feldmann and Muller, 2003). It has been suggested that organizations will deliberately distort information that can potentially reach not only their competitors, but also their own suppliers and customers (Mason et al., 1997). It appears that there is a built in reluctance within organizations to give away more than minimal information since information disclosure is perceived as a loss of power. Given these predispositions, ensuring the quality of the shared information becomes a critical aspect of effective SCM

(Feldmann and Muller, 2003). Organizations need to view their information as a strategic asset and ensure that it flows with minimum delay and distortion.

2.4. ORGANIZATIONAL PERFORMANCE

The performance as stated by Wheelen and Hunger (2000) is an end result of an activity and an organizational performance is accumulated end result of all the organization's work process and activities. Organizational performance refers to how well an organization achieves its market-oriented goals as well as its financial goals (Yamin et al., 1999). Financial metrics have served as a tool for comparing organizations and evaluating an organization's behaviour over time (Holmberg, 2000). Any organizational initiative, including supply chain management, should ultimately lead to enhanced organizational performance. A number of prior studies have measured organizational performance using both financial and market criteria, including return on investment (ROI), market share, profit margin on sales, the growth of ROI, the growth of sales, the growth of market share, and overall competitive position (Stock et al., 2000; Vickery et al., 1999). The most frequently used organizational performance measures include organization efficiency (productivity), organizational effectiveness and industry ranking (Wetherbe et al., 1999).

The end of the last century is characterized by the entry into a new qualified "new information economy "economy: its raw material is information, its machines are microprocessors, the means of transportation is the internet. According to many specialists in economics, this revolution offers considerable potential opportunities for business development in general. Also, companies that cannot now escape the revolutionary era of information are brought to consider that investment in ICTs and the development of methods for managing information and knowledge necessarily ensure their success.

One notes, however, that the spread of ICTs investment has not been short and medium term the expected effects on organizational performance of firms. In reality, they are not ICTs in themselves that can enable companies to dominate the market to be more competitive countries and individuals to obtain better paying jobs, but rather how to use

them combination with other factors (internal and external to the company), and the innovative capacity of firms. According to Porter and Millar (1985), the significant decrease in costs of research, processing and transmission of information has changed the lives of business. This analysis allows to make two points:

• The sharp increase in ICTs investment between the 80s and the 90s, is the result of multiple changes in the general business environment (internal and external);

• Investment in ICTs has become an obligation and not an option, especially because of the emergence of strategic and organizational role of ICT.

Leaders are now forced to make their investments in ICTs are optimized and ensure establish the factors that lead to better results. Different management practices are available to conduct effective management of projects, such as support for investments made by companies to restructure and adapt ICTs. The question is what are the strategic variables determining the success of ICTs investment (eg alignment and strategic planning).

2.4.1. The Issue of Performance

Often the elements that characterize the performance measures are related to human resources. In the literature on the subject, the authors discuss the different variable performance:

- Some experts consider performance as a dependent variable and measures related to HR as independent variables.

- Conversely, other authors consider performance as an independent variable and measures related to HR as dependent variables.

- For most authors, HR is central to the concept of performance: aspects of human resources are integrated into the development of the concept of performance as dependent or independent variables.

For example, higher education organizations, Cameron (1978) identified nine performance variables:

1 - The degree of student satisfaction with respect to the school experience;

2 - Level of academic development of students;

3 - The degree of development of the career of the student;

4 - The degree of social, emotional and cultural development of the student;

5 - Satisfaction of faculty and administrators;

6 - The level of professional development and the quality of the faculty;

7 - Open to the community;

8 - The resource acquisition capacity;

9 - Organizational health.

Some authors see organizational performance as a ''constructed'' with distinct variables that can be contradictory. Thus, any variable can be both necessary and sufficient to define the concept of performance. The issue of performance has been treated differently in different schools management. We give in what follows a brief overview of these theories to designate that which seems the most fruitful in terms of applications, namely the contingency theory.

The performance of the company is at the heart of the managerial function. As business leaders must make decisions for future action, they are expected to know how the company is and whether it has achieved its objectives. Different studies in the field of evaluation of IT investments show that there is no well-established measure of organizational performance (Verweire and Van Den Berghe, 2004). These authors conclude that measuring the performance mainly depends on the context and purpose of the research. Different variables are proposed to measure the concept of performance, such as productivity, efficiency, satisfaction, profits, quality, growth, moral and adaptability to change. Certainly, the performance of the company is difficult to define, but there may be a significant link between ICTs investment and one of these measures.

2.4.2. Organizational Performance under Various Management Schools

2.4.2.1. The Classical School

Research by Taylor (1911) aimed to increase the efficiency and speed of production in factories. The reasoning of Taylor (Taylorism) is based on the premise that there is a good way to accomplish any task (''one best way''). Also in the classical school, Fayol (1916) operationalizes management in variables such as the division of labour and esprit de corps. As Weber (1922), he created the concept of bureaucracy to examine a set

of structural arrangements (standards, procedures). He uses the term "machine "to refer to the organization.

2.4.2.2. The Human Relations School

The human relations school was created in response to the emergence of trade unionism, the development of research and the growing interest in organizational models incorporating human and structural dimensions. The concept of power sharing is introduced by Follett (1924) which advocates participatory management. The Weberian model is broken by Mayo (1933) and Roethlisburger and Dickson (1939) that introduce concepts such as bidirectional communication or production controlled by setting standards dictated by informal groups.

2.4.2.3. The Neoclassical

This school brings profound changes to the classical theories by introducing concepts such as the area of acceptance of an order, the co-optation of potentially dangerous elements to the organization and dysfunctional bureaucratic.

2.4.2.4. Modern Structuralism

Proponents of this movement sought the fulfilment of a rational organizational behaviour from rules based on formal authority. Thus, Etzioni (1964) studied the congruence between the type of authority and type of staff commitment, Walker and Lorsch (1968) described the organization according to functions or products, had systems multiple commands and the consistency of design parameters and contingency factors.

2.4.2.5. Systems Theory

Adaptive organizational model is created by Walker and Lorsch (1968) from cybernetics, a science -based control and information processing. The general systems theory of Bertalanffy (1972) seeks to achieve the unity of science. Burns and Stalker (1961) identified congruent to unstable or stable environments organic and mechanical structures.

2.4.2.6. Schools of Power, Politics and Organizational Culture

These schools reject the foundations of structuralist and defenders of the theory of systems, therefore they are "against –cultures" in management. These schools refute notions such as reaching goals, functionalism and rationality. According to these schools, the concept of control is determined by the organizational values , symbol manipulation and appropriation of power (Schein, 2004).

2.4.2.7. The Contingency Theory

This theory seems to be the most fruitful in terms of applications. It originates empirical results concerning interactions between the structure, environment, size, technology and organizational strategies. Some researchers have contributed to the description of certain interactions with the results of empirical studies in several areas. We can cite Schein (2004) who analyzed the barriers to change as the contingencies of strategic action. The researcher assumes that all behaviour is the result of a balance between driving and moderating forces. For their part, Burns and Stalker (1961) show that managerial practices of a mechanical nature are associated with companies with stable environments, while flexible and informal management practices are associated with unstable environments. Chandler (1962) shows that the organizational structure depends on the strategies adopted: changes in the environment cause changes in the strategy and also a structural change. As Schein (2004) establishes the relationship between production technology (single, continuous or mass) and the structure of the organization: the production unit or continuously associated with the organic structure, and mass production in a formal structure (mechanical).

Other studies consider the interrelationships between the environment and business structures and show that the performance depends on the consistency of the internal states of differentiation and integration of units with respect to the diversity and interdependence of the parts of the environment. Thus, Fielder shows that the effectiveness of leadership style depends on contingencies such as leader characteristics, the characteristics of members of the organization and the demands of the environment.

The contingency theory makes the assumption that there is a fit between the organizational context and organizational structure whose purpose is to obtain a superior performance (Lawrence and Lorsch, 1967). This theory admits proposals and called contingent assumptions, that is to say, based on combinations of two or more independent variables whose mutual adjustments determine the values of variables called dependent (Fry and Schellenberg, 1984). According Schoonhoven (1981) asymmetrical relationships are permitted that is to say that the effect of the structure on the performance is not monotonic (not necessarily increasing or decreasing) on the set of values of the uncertainty. This adjustment concept is central to considerations on the development of contingency theory. This concept, which initially was considered a premise of the congruence between the context and structure of the organization, has been extended to include the adjustment of pairs of "contextual and structural variables" that the concept of performance was associated. The adjustment concept now also covers the notion of performing ensembles including configurations of contextual and structural variables: it is equifinality within the system. This equifinality generates a second level of complexity. The uniqueness of the models is challenging, in the sense that the theorems of existence and uniqueness of solutions do not exist.

2.4.3. Changes over Time in the Concept of Organizational Performance

It is useful to explore various avenues for the study of performance. The first multidimensional performance models dating back to 1957.

2.4.3.1. The Period 1957-1975

Among the 17 multivariate models identified by Steers (1975) performance, performance criteria most often cited are adaptability and flexibility (frequency 10/17), productivity (frequency 6/17) and satisfaction (frequency 5 / 17). Studies Mahoney and Weitzel (1969) show that performance is a function of the goals, cooperation and human resource development.

2.4.3.2. The Period 1975-1984

Chaffee (1985) identified 25 studies for this period on the performance, three of which examine the relationship between strategy and performance.

2.4.3.3. The Period 1985-1994

El Louadi (1992) for his part showed that the way in which the perceived environmental uncertainty is correlated with the needs and capacity of information processing, but the performance is not necessarily a function of congruence between these needs and capacity. Chung (1991) established a relationship between financial performance and the congruence between the structure of information systems and strategy. Baack (1987) rejects the hypothesis of an interaction between structure and strategy, it also shows that the influence of the strategy on performance is negligible and finally the structure affects the performance.

Some research focuses on the issue of performance and its relationship with the environment, organizational strategy and the role of management. Thus, El Louadi (1992) proposed a model describing how the organization is dealing with the environment to generate among managers perceptions that form the basis for decision-making actions and their implementation. The three components of this model are the processes related to strategy, organization and the ability to overcome difficulties. Miller (1988) considers that the content of the strategy is a mediating variable between organizational structure and environment. It considers that the flexibility in the strategic choice is associated with a weak dependence between the environment and structure. More specifically, Miller (1992) states that the relationship between structure and processes are weak in organizations that reach a high congruence with the uncertainty of the environment. This is the case for flexible systems such as universities (Weick, 1976).

2.4.3.4. The Concept of Organizational Performance Since 1995

Research has been conducted on various aspects of performance, such as governance, risk, innovation, the profile of leadership, organizational culture, the success of change initiatives, the phenomena of succession, the role of audits, the role of intuition and quality of information.

Thus, Gephart (1996) states that management is disappearing as a social entity. He suggested that the rationality better reflects the passion, intuition, love and hope. For their part, March and Sutton (1997) argue that the majority of studies on organizational performance consider it as a dependent variable and are just trying to find other independent producers and say variation in the performance variables.

Kathleen and Lin (1997) argue that despite the distortions present in the information, the performance will increase if there is congruence between the complexity of organizational design and task environment.

Boone, Van and Van Olffen Witteloostuijn (1998) show that the psychological profile of senior management has a critical effect on organizational performance. Beu and Buckley (2001) argue that organizational behaviour that does not respect the rules of ethics can result in adverse effects on performance.

Finally, Garcia et al. (2006) argue that innovation and organizational learning history to entrepreneurship and organizational competitive advantage.

In short, we can say that the concept of performance has no commonly accepted definition. In other words, there is no consensus on the definition of this concept, which changes depending on the period, but also within the same period. On the other hand, the definition also changes depending on the interest group, the type of organization and organizational level considered. This leads Lindow (2012) to consider that the modeling used must be accompanied by a specification of the characteristics to define the concept of performance. Lindow (2012) cites some of these features:

- Definition of the purpose of the model used;
- The choice of field activities;
- The choice of the organizational level;
- The choice of group interests;
- The choice of the period;
- The choice of the type of observations;
- Selection of the basis for comparison;
- The environment;
- The strategy;
- Societal culture.

The contingency theory, rich, can accommodate a multitude of studies on the performance. This theory, integration complexity, management theorists offers many degrees of freedom to pursue their research by making appropriate assumptions.

2.4.4. Improve Organizational Performance through Innovation

The question that arises is how innovation can contribute to improve performance? Another question facing managers is related to the concept of excellence, that is to say "the art of doing ordinary things extraordinarily well." According to the some author, the manager must consider the recommendations based on the study of excellence. The most common type of innovation is the creation of new products. Thus, Chaston (2013) argues that innovation can greatly improve employee performance and organizational performance.

2.5. INFORMATION SYSTEMS (IS) AND PERFORMANCE

The question of the relationship between IS and business performance is a key issue in the field of management. In other words, the role of IS and their influence on firm performance is a key issue in management. Thus, it carries a certain interest in the effect of IS on the operation of the business, with a goal of improving performance. This issue of the profitability of investment in IS is critical on two levels: strategic and organizational.

First, the managerial interest in investment in IS is challenged by the traditional so low paradox, which states that we see computers everywhere except in the productivity statistics. Since then, this paradox has been updated and considers that they are no longer a source of competitive advantage. This contradicts the work of Porter and Millar (1985) and numerous research information system.

Kalika and Kefi (2005) identifies three approaches to performance:

- Economic performance, understood in terms of productivity and cost control;

- The organizational performance, assessed in terms of coordination, information sharing;

- Dynamic performance, approximated in terms of skills through the capabilities of the company in the areas of innovation, responsiveness and anticipation.

2.5.1. Information Systems and Economic Performance

Relation to the economic approach to performance, Kalika and Kefi (2005) uses two complementary approaches: the productivity and cost control. The questions that arise are:

- IS investments they have an impact on individual productivity?

- The proliferation of IT tools it allows better control of costs due to improved traceability of activities?

According to the study by Kalika and Kefi (2005), managers surveyed believe that there is a positive impact of IS on the economy and that it is shared by a growing number of business leaders.

2.5.2. IS and Organizational Performance

There is a social science research focus is to identify new properties conferred by their organizational models modes of IS adoption. For example, consider centralized and hierarchical organizations have a low capacity to adapt to change and to local specificities. IS tend to allow centralized become more flexible and coherent organizations. It is therefore necessary to determine the new dimensions of organizational choices between alternatives. Similarly, analysis of the dimensions for contrasting organizational models must be renewed. It may be necessary to add distinctions in terms of degree of standardization of procedures or methods of information sharing to more traditional notions of level of centralization of decisions or degree of division of labour. Many managerial innovations of recent years would be better considered and the manner in which technology influences the design and operation of organizations would be better understood. Such analytical innovations are also provided a renewed analysis of trade-

offs that information systems, organizations and strategies facing policy makers when designing.

A more relevant analysis of how IS is changing the world of designers choice organizations is indeed a prerequisite for trajectory analysis of organizational change. Studies in the past emphasize that technologies create new spaces of choice because their users are discovering the use of both their potential and limitations of the procedures used previously. They therefore engage in process of experimentation and learning trajectories which largely explain the results themselves bearers of new developments. A renewal of the analysis is necessary to understand both the economic and social impacts of IS and to develop the necessary accompanying measures whether policies (employment and qualifications, for example) or managerial techniques.

At the organizational level, it would be interesting to know the impact of the deployment of information technology and communication (including Intranet, e -mail, integrated management software...) on the coordination and circulation information. The sharing of information has improved through IS. For many businesses, IS has a positive impact on information sharing. In other words, the business leaders surveyed believe that on an organizational level, there is an improvement in the operation of enterprises, in terms of coordination and information sharing, due to an IS effect.

2.5.3. IS Capabilities

One wonders here whether through IS, the company is better able to innovate, anticipate, react in an environment whose dynamism is a challenge for companies. These response capabilities are this spring's future business performance.

Kalika and Kefi (2005) define responsiveness as the ability of the company to react to changes in the environment and possibly faster than its competitors. They consider that it is a distinctive competence in the context of both operational and strategic competition. IS, due to the larger shared information availability, as well as faster communication between teams, are seen as having a role in improving the response capacity. However, given that the reactivity is a skill on which companies are increasingly considered this aspect seems important. This skill can be a source of competitive

advantage in a constantly evolving context, unstable and product cycles shorten and technologies.

2.5.4. Determinants of Perceived Performance of IS

The study of Kalika and Kefi (2005) shows that firms for which the introduction of IS was accompanied by changes in organization and strategy are those that provide the improvement scores of the strongest performances. This means that the sources of performance can be found in the changes in strategy and organization resulting from IS.

The study also shows that the most successful companies are those who believe that IS have a strategic issue and provide a competitive advantage. Kalika and Kefi (2005) justified this by the fact that these companies have implemented through their strategy, their beliefs about the contribution of IS. Strategic alignment appears as a performance factor. Consequently, the search for coherence between strategy and IS supporting statement.

Following these findings, including the fact that the coherence between IS investment, strategic change and organizational change is associated with greater perceived performance, Kalika and Kefi (2005) consider it necessary to insist on the need for strategic alignment between different aspects of management. In other words, it is important for companies to understand that the questioning of the internal modes of operation is sometimes necessary to capture the opportunities brought by IS. As companies improve their performance through IS are those who know deep change their strategy, organization and coordination mode.

2.5.5. Impact of IS Skills

Nechita and Timofti (2011) says competence as "the ability to solve a problem (to perform an activity) in a given to meet the requirements of the professional context organization ".

Nechita and Timofti (2011) highlights several aspects with respect to this definition. According Chung et al. (2009), it is necessary to take into account changes in the work environment to analyze the development of individual skills related to the

exercise of a professional activity. The first question that arises is the author, with a view to study the impact of IS on employees is "how IS has changed the working environment for employees."

The second examined in this definition aspect is that competence is related to the activities performed: it is competent to do something and not in absolute terms. It is through the development of activities (i.e. job content) that we can see the need for new skills.

The third aspect highlighted is the skill itself. Jurisdiction is underlying the activity and performance, it implies success in an activity, along with the motivation and a suitable working environment. The question then changes due to IS skills: what are the new skills required to effectively carry out the activities in the context of IS?

2.6. INFORMATION SYSTEM AND E-COMMERCE SYSTEM SUCCES

IS Success measurement has been one of the key issues of concern both in IS management practice and research (Seddon et al., 1999). Research into IS Success has posed a hurdle to the IS community in that it offers both conceptual challenges as well as implementation difficulties. These issues have been researched by many academics (DeLone and McLean, 1992; Remenyi et al., 2000; Seddon et al., 1999; Saunders and Williams, 2002; DeLone and McLean, 2004), each of which has taken a differing stance as to what constitutes success.

We need to remember that the model of DeLone and McLean (1992), is simply the reference model most used by many researchers worldwide. From this model, they have done their research and practitioners have found a guide to action to carry out its work both in the area of System Quality, Information Quality, System Use, User Satisfaction, Individual Impact and Organizational Impact. Therefore, these authors saw the need to update the model in the year 2003. To adapt to the new requirements of the information system, adding the concepts of Quality of Services and Benefits include Net.

The information system has increased in its implementation for strategic reasons: control of internal operations, efficiency, productivity, profits (Kennerly and Neely,

1998) in a turbulent world marked by constant changes (Rainer and Watson, 1995), becoming critical executives (Saunders and Jones, 1992), and how they affect the administrative, management for long have sought and rethought how to measure their performance, recognizing that new strategies and competitive realities demand new measures for systems (Eccles, 1991), and it is true that managers are under great pressure to justify the contribution of these costs on productivity, quality and competitiveness of the organization (Myers et al., 1997, Teo and Wong, 1998), coupled with the effectiveness of the information system function in business performance has been shown that it is practically difficult to define and measure (Niederman et al., 1991; DeLone and McLean, 1992) to be a multifunctional construct (Molla and Licker, 2001; DeLone and McLean, 2003). In addition, evidence suggests that the poor performance of the information system function is a serious inhibitor to the proper conduct of the business (Carlson and McNurlin, 1992), these researchers also found in their studies of several companies that the high effectiveness of the information system is associated with the high percentage of organizational performance. Goodhue and Thompson (1995) indicate that the key research concerning information systems has been better understood by the existing link between them and individual performance. For this reason, from years ago, a number of empirical research studies have made the multidimensional relationships between measures of information system success (Igbaria and Tan, 1997; Teo and Wong, 1998) and their interrelationships (Yuthas and Young, 1998).

But people are still the most important to consider all types of model evaluation or assessment of information systems and information technology aspects. Some research obtained that information quality and system does not exist in the absence of its relevance to the individual user and organization (Ballantine et al., 1996). Gatian (1994) tested the question: Is user satisfaction a valid measure of the effectiveness of the information system and found a support for this relationship? Therefore, Ballantine et al. (1996) state that the key to the people If more systems; considering the same way told by Heo and Han (2003): individual users have different jobs, with different skills and various techniques and temporary organizational environments in varied situations.

Also, the alignment of the conduct of the strategic business units within the corporation and the alignment of the IT organization with these units has been a primary concern of many managers (Peak and Guynes, 2003), where companies need to integrate

their information system with their business plans to ensure they are aligned with the strategy of the organization (Premkumar and King, 1992), with an important role in decision support Policy decisions (Galleta and Lederer, 1989), but Heo and Han (2003) argue that IT (which includes IS) is a source of increased costs and affects management.

Researchers have resulted in a number of approaches to the evaluation of IS Success. These include: system usage (Srinivasan, 1985); information value (Gallagher, 1974); user satisfaction (Shaw et al., 2002) and more recently service quality (Jiang et al., 2002) to mention just four approaches. Such varied approaches to IS Success measurement suggest a lack of agreement regarding the question of what constitutes IS Success.

This diversity of approaches was from an early stage a cause of concern for both researchers and practitioners. One of the cited papers in the literature is that of DeLone and McLean (1992). In their paper, these authors synthesized many empirical IS Success measures into a unified model. The resultant IS Success Model (DeLone and McLean, 1992) has been regarded by many researchers as a major contribution to this area of research (Molla and Licker, 2001; Garrity et al., 2005) and has been the focus of several studies. In 2003 this model was updated (DeLone and McLean, 2003) to reflect changes observed in the literature. The updated model consists of six interrelated dimensions of information systems success: System quality, Information quality, Service quality, Use, User satisfaction and Net benefits. These authors argue that their updated model of IS Success is also applicable to the e-commerce environment (DeLone and McLean, 2004). However, they acknowledge that the two examples they use to demonstrate application of the updated IS success model to e-commerce business are "compelling logically" (DeLone and McLean, 2004), but require empirical testing. DeLone and McLean (2004) state that the DeLone and McLean information system success model (DeLone and McLean, 2003) can be applied to the e-commerce environment as follows:

System quality, in the Internet environment, measures the desired characteristics of an e-commerce system. Usability, availability, reliability, adaptability, and response time (e.g., download time) are examples of qualities that are valued by users of an e-commerce system.

 Information quality captures the e-commerce content issue. Web content should be personalized, complete, relevant, easy to understand, and secure if prospective buyers

or suppliers are to initiate transactions via the Internet and return to a site on a regular basis.

Service quality, the overall support delivered by the service provider, applies regardless of whether the support is delivered by the IS department or a new organizational unit or is outsourced to an Internet service provider. This dimension is more important in an ecommerce environment than ever before, because the users are now customers rather than employees, and therefore, poor user support will translate into lost customers and lost sales.

Usage measures everything from a visit to a web site and navigation within the site to information retrieval and execution of a transaction.

User satisfaction is an important means of measuring customers' opinions of an e-commerce system and should cover the entire customer experience cycle from information retrieval through purchase, payment, receipt, and service.

Net benefits are the most important success measures, because they capture the balance of the positive and negative impacts of e-commerce on customers, suppliers, employees, organizations, markets, industries, economies, and even society as a whole.

Seddon and Kiew (1996) tried to partially validate the DeLone and McLean (1992) model and in so doing suggested the inclusion of perceived usefulness as a replacement to use, given that use is primarily a behavior, like Seddon and Kiew (1996) in this study perceived usefulness is used instead of usage.

3. RESEARCH FRAMEWORK AND METHODOLOGY

3.1. RESEARCH FRAMEWORK

Past studies mostly focused on a single way to analyze the interaction between a factor and organizational performance. They either studied the importance of supply chain practices and organizational performance or information systems and organizational performance. There is not any study focused on e-commerce from the perspective of those factors. However, our study is a more extended one that evaluates broader factors affecting organizational performance by focusing on e-retailing. The model of our study can be seen in Figure 3.1.
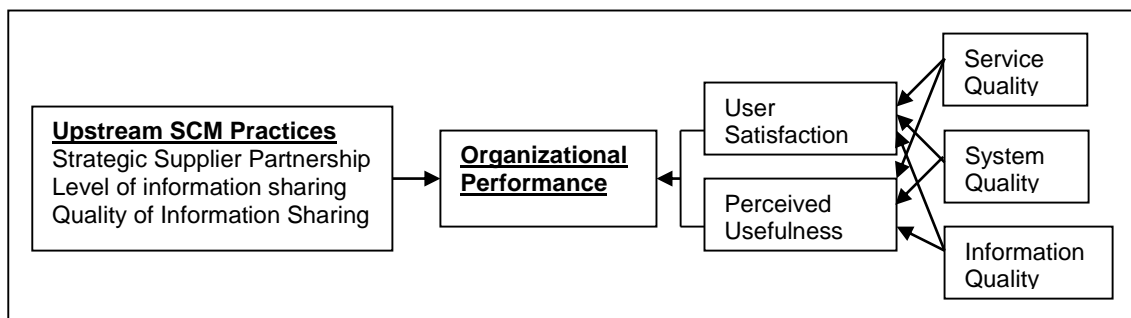
Figure 3. 1 Research Framework Model of the Study

About innformation systems success Delone and Mclean (1992) conducted a review of nearly 180 studies published during the period 1981-1992 based on the work of the three levels of communication (Shannon and Weaver, 1948) to create a model of successful information systems (Mason, 1978).

According to (Ballantine et al, 1996), (Seddon and Kiew, 1996) (McGill et al., 2003), the model generates two contributions to understanding the success of information systems (IS):

- Provide a scheme for classifying the multiple measures of success of IS used in the literature in only six dimensions;

- The model suggests " temporal and causal " interdependencies between categories.

The original authors, to conduct a review of the references to its original publication, found 285 citations in journal articles and conference model D and M during the period 1993 to mid- 2002 (Delone and McLean, The DeLone and McLean model of information systems success: A Ten- Year update, 2003); for the 2003 update, verified and analyzed more than 100 articles in magazines most important research to inform the review of the measurement of success of the information system, and based on the considerations of processes and causal, the six dimensions successful proposals are more interrelated independent.

The 2003 model has six dimensions, these are interrelated, resulting in a successful model that indicates that causality flows in the same direction as the process of information: " information quality ", " system quality", " service quality ", " intention to use" or " use "," user satisfaction " and" net benefits "; and because research has found support in relations model (Rai et all., 2002). This updated model includes arrows (links) to demonstrate the proposed associations between dimensions of success in a process sense, but does not show the positive or negative sign for those associations in a causal sense; for updating the authors note:

The three main dimensions: "information quality", "system quality" and "quality of service" must be measured or controlled separately because unitedly, subsequently affecting the use and user satisfaction.

- The " intended use " may be an alternative measure in some contexts. This dimension is an attitude, usually applied to the social - psychological level, while the "use" is a behavior. The "use" and user satisfaction are strongly related, in this relationship the "use " must precede the " user satisfaction" in a sense of process. The positive experience with the "use " this will lead to a " user satisfaction" in a causal sense. Similarly, the " user satisfaction" directed toward increasing the " intended use" and "use", and as a result of "use" and "user satisfaction", the net benefits often come.

To keep both the model pooled all measures of "impact" in the variable "net benefits". Delone and Mclean (2002) use the term "net benefits " (union of individual and organizational impact) because the original term "impact" can be positive or negative,

which can lead to confusion. Thus, the "net profits" are probably the exact description of the variable final success. To be sure, the " net benefits " may be assessed differently by researchers and scholars, as well as the success factors, therefore, the authors make "free" the interpretation and use of this aspect, their new model (Delone and McLean, 2003) added the dimension of " quality of service " based on the research reviewed.

In this study DeLone and McLean (2003, 2004) information system success model is adapted and used to measure the e-commerce success factors in e-tailing. It is evaluated seperately the impact of upstream SCM practices and e-commerce sysytem succes factors on organizational performance. The detailed framework of our model and hypotheses have been given below.

3.2. MODEL 1

3.2.1. Model 1 Research Framework
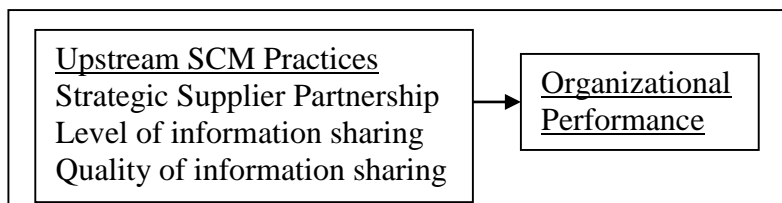
Figure 3. 2 Research Framework of Model 1

Is there a link between good management practices in the supply chain and business productivity? To answer this question, the results of several empirical studies (Beaulieu and Roy, 2009) are analyzed. From this analysis, it is found that:

Good logistics practices have a positive impact on the operating performance of companies (delivery speed, responsiveness, flexibility and deliverability) and business performance (average growth in market share, average growth in sales volume, average growth sales dollars). These results come from a survey conducted in the U.S. manufacturing sector with a sample of 142 respondents from organizations employing more than 500 employees (Green et al., 2008).

The use of good logistics practices (integration, outsourcing, customer service) and the deployment of logistical skills (quality and services, operations and distribution, design efficiency) would have a positive impact on organizational performance of businesses, particularly level of competitiveness. This survey was conducted among a hundred manufacturing companies in the United States and Taiwan (Chow et al., 2008)

Implementation of management practices with quality suppliers helps solidify the participation and collaboration of the latter, resulting in improved organizational performance. These findings come from a survey of 103 companies located in Hong Kong and Taiwan (Lin et al., 2005).

3.2.2. Model 1 Hypothesis

H1a: Strategic supplier partnership has a significant effect on organizational performance.

H1b: Level of information sharing has a significant effect on organizational performance.

H1c: Quality of information sharing has a significant effect on organizational performance.

3.3. MODEL 2

3.3.1. Model 2 Research Framework
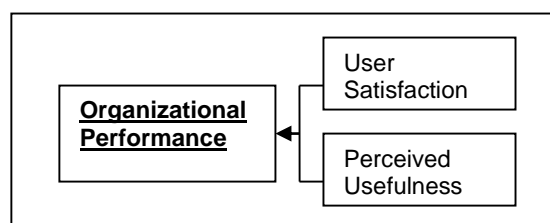
Figure 3. 3 Research Framework of Model 2

The benefits granted by a company to have satisfied customers are many. Some of these are: customer satisfaction multiplies positive communication to others who

perform these "potential" customers, improving the working environment prevailing in the organization, creating a climate of harmony among co-workers, improving economic performance indicators organization to sell to customers and add "more" to satisfied. There is a marked difference between competition and the organization and that it is not based on comparative factors but eminently competitive advantage.

The Kano model is named after its creator, Professor Noriaki Kano, the current chairman of the committee that decides the fate of the prestigious Eduard Deming Award. The Kano model of customer satisfaction was released in the early 80s. And questions the premise that customer satisfaction depends solely on how well a company is able to make their products or provide their services. Kano, with his team, enunciated that not all features of a product or service produced the same customer satisfaction, but there are some that contribute more decisively to strengthen their loyalty to the product form. Distinguishing characteristics of other, proposed the following groups:

- Features / Basic Requirements are characteristics of the product that the customer considers mandatory. No increase customer satisfaction, but a big cause dissatisfaction if not bring

- Features / Performance Requirements: These product characteristics increase proportionally customer satisfaction. The more you add or offer more features, more satisfied customers

- Features / Requirements delight: no features are expected by the client and causing great satisfaction. As they are not expected, do not cause dissatisfaction if not provided.

According to Kano model, all features that have an influence on customer satisfaction can be classified into any of the above three groups. Other features that do not affect customer satisfaction are also identified:

Indifferent, questionable, and inverse. If the basic requirements do not provide 100% and in perfect condition, there will be dissatisfaction, however small. It is not easy to obtain high levels of satisfaction only acting on such characteristics.

Performance requirements evolve linearly with satisfaction. From a compliance for these requirements and a huge dissatisfaction, we can gradually increase satisfaction as we will provide more and better features of this type.

Requirements of delight (delighters) satisfaction always placed above the neutral situation. As we provide these features, satisfaction increases much more rapidly than get providing performance characteristics.

Perceived usefulness is considered an extrinsic motivation to the user, and is defined as the degree to which a person believes that using a particular system can improve organizational performance (Davis et al., 1989; Lederer et al, 2000).

3.3.2. Model 2 Hypothesis

H2a: User satisfaction has a significant effect on organizational performance.

H2b: Perceived usefulness has a significant effect on organizational performance.

3.4. MODEL 3

3.4.1. Model 3 Research Framework
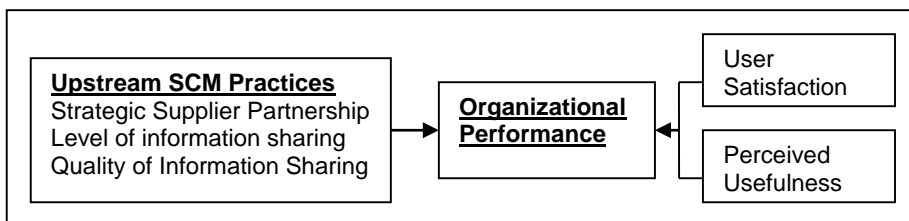
Figure 3. 4 Research Framework of Model 3

Regarding the internal integration many firms have made substantial efforts, but there are still many gaps and inconsistencies: it is common for the management of logistics have better integration with suppliers with management purchasing, production and marketing and other times procurement management has better integration with suppliers with management logistics, production and marketing.

Obviously the lack of internal integration is linked to an organizational structure and traditional performance measures that emphasize the work "functional" and not "cross-functional" processes and equipment that are actually borne consumer satisfaction.

Integration with suppliers focuses on activities that create strong ties with partners in the supply chain, so that compact flows and established rhythm activities with work / manufacturing internal to the firm. The company must make a proper mix of internal and open to suppliers to enable it meet the increasingly high expectations of consumer demand closed process. Get a performance leader in the operational context requires the company to be focused on the consumer, constantly improve the matching process between levels and reaches a functional and interorganizational coordination with suppliers of goods and services.

The integration of information technology and indicators of performance measures, should allow internal monitoring and conducting a benchmarking performance at a functional level and process not only within the firm, but essentially the entire length of the supply chain. As every business is unique, each must define, operationalize and monitor defined common adequate prior. Obviously, you need to create the firm and its partners in the supply chain one culture of interorganizational management.

Internet is proving to be an effective tool in transforming supply chains of all industries. Suppliers, distributors, manufacturers and sellers are now working more closely and effectively than ever. The current supply chain, controlled by technology, allows customers to manage their own shopping experiences, enhance coordination and connectivity between supply partners and help reduce operating each of the companies in the chain costs.

3.4.2. Model 3 Hypothesis

H3a: Strategic supplier partnership has a significant effect on organizational performance.

H3b: Level of information sharing has a significant effect on organizational performance.

H3c: Quality of information sharing has a significant effect on organizational performance.

H3d: User satisfaction has a significant effect on organizational performance.

H3e: Perceived usefulness has a significant effect on organizational performance.

3.5. MODEL 4

3.5.1. Model 4 Research Framework
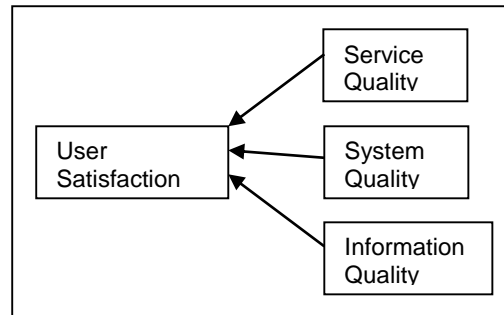
Figure 3. 5 Research Framework of Model 4

The provision of a service is a process with varying degrees of complexity, starting with some inputs (inputs) are held within a period of time by performing a number of activities and ends with the achievement of results that are delivered to the customer, whether internal or external.

While all people are consumers that the beginning and end of the production cycle and knowledge transfer is the user to grasp the idea that it is our essence, our ontological principle, gives it more relevant to the determination of their characteristics and needs to cover them completely, that is to say satisfying.

From these ideas we can generate a concept, satisfaction of users of information is a mental state of the user to represent their intellectual, emotional and material to the fulfilment of a need or desire for information responses. This state is always a construct evaluation and judgment, because the objectives and expectations against results obtained are compared.

Satisfaction includes three main areas: the operation of search and information retrieval; the use of information obtained; and services. These areas are consistent with the ontological foundations of the discipline: the information resource as basic to meet a user need to be joint search and retrieval system for information-access services as library activity element to facilitate that solution.

Unfortunately most studies on user satisfaction has been directed to measuring the performance of search and retrieval systems and the obtained information resource and

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not services. The measures used were more relevance, leaving out such elements as the style or design of the interface, ease of system management, the usefulness of the information and services of the entire information unit.

3.5.2. Model 4 Hypothesis

H4a: System quality has a significant effect on user satisfaction.

H4b: Service quality has a significant effect on user satisfaction.

H4c: Information quality has a significant effect on user satisfaction.

3.6. MODEL 5

3.6.1. Model 5 Research Framework
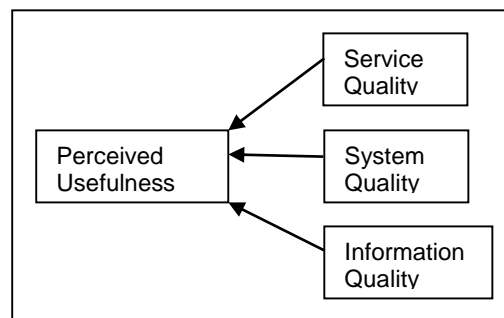
Figure 3. 6 Research Framework of Model 5

Utility is the extent that the website serves the user - profit, benefit and interest to produce, which can be defined as a ratio of affective attitude with the website. It should be noted that this factor refers to the subjective or perceived usefulness, not the objective or art.

While the utility is not a purely design factor, we cannot cleave this quality of design process. As Morville (2004) argues, the actors involved in this process should not only deal with the results of their work are usable, accessible and aesthetic; but also to actively contribute their knowledge and creativity to make it useful.

The relationship that occurs between utility and usability is similar to that between accessibility and usability. If a website cannot be accessed or viewed, you cannot use;

and if it is not easy to use utility will not profit. In the words of Dillon and Morris (1999), usability is the extent to which the user can exploit the usefulness of the website.

Most authors in defining the notion of usability, emphasize its relationship with the utility in the way of securing acceptance of the website by the end user (Folmer and Bosch, 2004). Furthermore, there is empirical evidence that perceived usability positively influences perceived usefulness, as can be seen in numerous studies (Zhang and Li, 2005, Calisir and Calisir, 2004).

The definition of utility characterizes as apperceived and motivating factor. The perceived usefulness causes satisfaction (Muyllea et al., 2004), with all the factors that cause the intended use makes it more weight, as evidenced by numerous studies (Mahmood et al, 2000; Zhang and Li, 2005).

Usability is characterized as motivating factor at the same time, due to their own bi - dimensionality inherent objective or subjective or perceived usability and usability.

As seen, the hygiene factors - functionality, accessibility and fundability - present interaction with undetected or objective dimension of usability, while motivators -utility, aesthetics and credibility, with its dimension apperceived or opinion.

The definitions of usability, as noted in the introduction to this work, are based on the enumeration of the different attributes that compose and through which it intends to be measured or evaluated. This is because the usability engineering is composed mostly of methodologies and assessment tools, with the validation of the design decisions, from a user perspective, the main function of the practice of usability.

The performance evaluation in terms of user interaction tasks, such as ease of learning, ease of memorization, effectiveness, efficiency and ease of understanding, not empirically ensure no frustration and demotivation of user. A design is usable in this regard will depend primarily work correctly, it is accessible and have a proper information architecture.

Moreover, the assessment of factors in interaction tasks ready against perceived ease-of-use, attractive, comfort and pleasure of use - will determine the design capacity to cause satisfaction and encourage their use. This capability will be conditioned by the utility, credibility and aesthetic website.

Usability as a professional practice, is also responsible for the proposed designs and redesigns the interface based on the results of the evaluation tests of heuristic principles of usable design, usability guidelines or interaction design patterns.

We can conclude that the conceptual duality of usability, the interrelationships of influence with other design factors and their role in practice, prediction and evaluation of the quality of these factors, erected usability as vertebral factor design satisfaction - oriented frustration not use.

3.6.2. Model 5 Hypothesis

H5a: System quality has a significant effect on perceived usefulness.

H5b: Service quality has a significant effect on perceived usefulness.

H5c: Information quality has a significant effect on perceived usefulness.

4. DATA COLLECTION

4.1. RESEARCH METHOD (DESIGN)

This research is quantitative in nature; data collection is used to test hypotheses based on the numerical measurement and statistical analysis to establish patterns of behavior. It is also possible to say that it is not experimental order (involves correlation / causation) because phenomena are observed as given in its natural context and then analyze them for study and direct observation, questionnaire and document analysis is used. As such, this study arises primarily as a descriptive exploratory research character.

In this nuance, the method is a set of systematic procedures to achieve the development of a science and obtaining information, broken down into various techniques such as data collection, measure, validate, and encode a measuring instrument, for this case particular questionnaire.

The components of the proposed model are derived from an analysis based on general systems theory, an examination of other frameworks and relevant measures operationalized successfully applied in other studies at e-tailing sector, in other words, the validation of the elements done in institutions with different characteristics, e-tailing firms, customers, suppliers, information system structure, etc..

The first step was a send questionnaire to e-tailing firms' representatives (except IT representatives of the firm) and ask them to participate in this research. When a response is not received, they were called by phone to remind the questionnaire or asked them to participate in it on the phone. So data is collected by means of a self-administered questionnaire which is asked to 214 representative of the e-tailing firms in 2013 and 2014. A total of 214 firms are called. 131 acceptable questionnaires are received with a response rate of 61.21%. The data is analyzed through the use of a package program called the Statistical Package for Social Sciences (SPSS) version 18.

The second step was to consider the statement of the problem, objectives, hypotheses and research questions in order to determine the most appropriate items to build an instrument (questionnaire) and answer the problems presented. Obtaining these indicators (items) are collected based on the review of instruments used in other studies

on the issue to be taken into account; although it is difficult to create and even to check because the possibilities are virtually endless content.

Having a shaped instrument, the third step was validation, it is established through desk reviews and judgments or expert panel by these researchers add that reliability refers to the degree to which an instrument produces consistent or error-free results. Therefore, the items considered and the instrument were evaluated by professionals in systems development. These experts were asked in general them to add more variables if necessary, assign weights to the variables, indicating redundant, give suggestions of the study in general. Their responses formed the research model contain elements and appropriate relationships between the factors of the model.

The fourth step is based on the information obtained, it follows the development of general and analytical description, correlation matrices, factor loadings, indices, etc. in order to test hypotheses designed.

As the fifth and last step, we proceed to develop the conclusions taking into account the above analysis and present a series of reflections and lines of future research.

4.2. UNIVERSE OF THE STUDY

The research focuses on the area of the profile and importance of the institution where the model is applied to validate. The universe includes factors that infer or directly affect users. Universe which is determined in this study is e-tailing firms performing in Turkey.

4.3. SAMPLE

The study will be applied in the electronic retailing industry in Turkey. People who filled out the survey will be managers (only except for information system managers) and they will be asked to consider their upstream supply chain management practices, organizational performance and B2C e-commerce system while answering the survey.

The questionnaire will be pre-tested to ensure that the translation, wording, format and sequencing of questions are appropriate.

4.4. INSTRUMENT (QUESTIONNAIRE) AND MEASURE

Qualitative research methods were developed in the social sciences, allowing the researcher to study a social or cultural phenomenon (Myers, 1997; Dalcher, 2004) through the use of a data collection technique, such as a questionnaire; hence the last 50 years and particularly the last two decades, techniques and research standards of the questionnaire have become quite scientific and exact (Zikmund, 2003). The choice of research method is strongly linked to the type of information that is available to the researcher. The data sources used by researchers include observation, "work in the field", questionnaires, documents, texts and receive feedback from the researchers (Dalcher, 2004).

Moreover, the construction of the instrument is a process of developing the data collection device to obtain the relevant information to answer the research questions (Dyba, 2000) and is one of the most used methods in the field of information system (Ishman, 1996) providing information at different levels of analysis (individual and organizational). Ives, Olson and Baroudi (1983) suggest that the research community information systems need to select a standard instrument for measuring the success of user information and disseminate it among the community of practitioners.

Problem definition indicate what information should be collected to answer the research questions, based on relevance (get information prominent research problem) and accurate (the information is reliable and valid) (Zikmund, 2003) and from the point of view of Miller and Doyle (1987) the composition of the instrument is designed to meet the needs for the evaluation of the attributes, factors and dimensions of information system success that allows testing the hypotheses. A questionnaire is good, by the questions it asks: according to Zikmund (2003) design is the most critical steps in the research process; also because companies are complex with many subdivisions to the constructs of information system success (Sherman et al., 2004).

The questionnaire consists of 4 parts. The first part includes the demographic questions, the second part includes the upstream supply chain management practices questions, the third part includes organizational performance questions and the last part includes B2C e-commerce system success factors questions. In the first section there will be a letter to give information to the respondents about the purpose of the study that their responses will be confidential and the answers will be assessed only by the researcher. Questionnaire used in this study is submitted in the appendix part at the end.

4.4.1. Demographic Variables

The first part contains 4 demographic questions to determine the characteristics of the sample. This part gives ideas about duration of doing e-commerce, number of employees, annual sales volume, product categories of the organization

4.4.2. Measurement of Upstream Supply Chain Management Practices

To measure upstream supply chain management practices, the questionnaire used by Li et al. (2004) is adapted and used. The questionnaire is firstly translated into Turkish and then adapted by taking the opinions of academicians. A five-point Likert type scale ranging from 1= "Strongly Disagree" and 5= "Strongly agree" is utilized to assess upstream supply chain management practices.

4.4.3. Measurement of Organizational Performance

To measure organizational performance, the questionnaire which is used by Li et al. (2004) is be used. The questionnaire is firstly translated into Turkish and then adapted by taking the opinions of academicians. A five-point Likert type scale ranging from 1= "Strongly Disagree" and 5= "Strongly agree" is utilized to assess Organizational Performance.

4.4.4. Measurement of B2C E-Commerce System Success Factors

To measure B2C e-commerce success factors, the updated DeLone and McLean (2003) information system success model is adapted and used. The questionnaire which is used by Brown and Jayakody (2008) is used. The questionnaire is firstly translated into Turkish and then adapted by taking the opinions of academicians. A five-point Likert type scale ranging from 1= "Strongly Disagree" and 5= "Strongly agree" is utilized to assess B2C e-commerce system success factors.

4.5. SCALE AND RELIABILITY

Any problem, even the most abstract, scientific research implies somehow a task measuring the concepts involved in it. The difficulty is that some of the variables cannot be measured as simple as the linear scales and in which, moreover, do not exist for comparison measurement patterns universally defined and accepted. For this reason, measuring a complex concept involves making a series of transactions that do not occur in the case of variables such as weight or length; must define the dimensions that make up the variable, many different indicators that reflect and then build a sequentially ordered scale that supports an appropriate start point and an end to the case.

The reliability of these instruments is meaningful but the degree to which repeated application to the same subject or object produces the same results. Defining a measurement scale is complicated and not applicable to all investigations; which consists of several categorical responses providing the respondent with alternative, providing more information (Zikmund, 2003). For this work, it is proposed the latter is analyzed: simple attitudes scales, categorical scales, summed average method (Likert scale), semantic difference, numerical scale, constant sum scale, staple scale, graphic scale averages. The Likert scale is chosen for the following reasons:

- ➢ It is popular among researchers because of its easy handling and administration.
- ➢ Respondents from a range of alternatives.
- ➢ Used in most information systems research.

5. ANALYSIS

5.1. DEMOGRAPHIC ANALYSIS OF THE SAMPLE

5.1.1. Duration in E-Tailing Sector

First item we analyzed is number of years passed doing business in e-retailing sector. All firms participated in our survey answered their number of years' experience as there is no missing participant.

Table 5. 1 Statistics of Duration

N	Valid	131
	Missing	0

Table 5. 2 Distribution of Duration in E-tailing Sector

Duration		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	0,8	0,8	0,8
	1	5	3,8	3,8	4,6
	2	26	19,8	19,8	24,4
	3	19	14,5	14,5	38,9
	4	21	16,0	16,0	55,0
	5	10	7,6	7,6	62,6
	6	9	6,9	6,9	69,5
	7	10	7,6	7,6	77,1
	8	5	3,8	3,8	80,9
	9	9	6,9	6,9	87,8
	10	4	3,1	3,1	90,8
	11	1	0,8	0,8	91,6
	12	1	0,8	0,8	92,4
	13	5	3,8	3,8	96,2
	14	2	1,5	1,5	97,7
	15	2	1,5	1,5	99,2
	16	1	0,8	0,8	100,0
	Total	131	100,0	100,0	

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As seen from the Table 5.2 duration varies from 1 year to 16 years. However, it is seen that the majority of participating firms have less than 5 years' experience and duration number sharply declines when years increased. The fact that having less than 5 years duration may be associated to rapid increase in e-tailing sector in recent years in Turkey. In fact, everyday there are lots of new participants entering this market. Turkey faced significant improvement in e-retailing sector. Consumers are wishing more alternatives with lowest price. Thus, they consider e-retailing firms as a good option to compare all alternatives and purchase the most rational one. Number f firms with longer duration decreases because internet technologies were not such efficient in the early years. There were not such payment options and logistics of the goods were more difficult. Moreover, due to rapid increase in competition in the sector, old firms could not deal with this competitive environment and left the industry. Preferences of consumers shifted to other web sites. Thus, old firms could not generate efficient marketing strategies.

5.1.2. Sales Volume

Second item asked to participants is their annual sales volume. All participants gave information about their sales volume amount.

Table 5. 3 . Statistics of Sales Volume

N	Valid	131
	Missing	0

Table 5. 4 Distribution of Sales Volume Amounts (Million TL)

	Sales Volume	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	100-250	12	9,2	9,2	9,2
	25-50	3	2,3	2,3	11,5
	250+	5	3,8	3,8	15,3
	5-	86	65,6	65,6	80,9
	5-25	21	16,0	16,0	96,9
	50-100	4	3,1	3,1	100,0
	Total	131	100,0	100,0	

133

Most of participating firms as 65,6% have sales figure less than 5 million TL. Another significant group is 5-25 million TL with 16% share. Here it is said that majority of participating firms is small sized firms when compared to global competitors. There are only 5 participating firms with above 250 million TL sales volume. The reason behind this fact is our participating firms are targeting only Turkish market. They do not or cannot target international markets due to some reasons.

5.1.3. Number of Employees

Table 5. 5 Statistics of Number of Employees

N	Valid	131
	Missing	0

Table 5. 6 Distribution of Employees Hired

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	100-500	19	14,5	14,5	14,5
	50-	97	74,0	74,0	88,5
	50-100	12	9,2	9,2	97,7
	500-1000	3	2,3	2,3	100,0
	Total	131	100,0	100,0	

As seen from above Table 5.6, the majority of participating firms with 88% have less than 50 employees. Thus, it is possible to argue that Turkish e-tailing firms are small sized. There are few Turkish e-tailing firms with big employee numbers. Here it is recalled that internet business does not require much workforce. Due to advanced communication technologies, purchase orders are directed to suppliers and order items are transferred from supplier directly to consumers.

5.1.4. Sales Categories

In this section, E-tailing sales items are analyzed in 14 different categories. Most of participating firms are selling goods under several categories. It is possible to claim that it is very rare to see firms selling all categories analyzed below. At least few categories are missed from firm to firm. Below titles analyze each category separately.

5.1.4.1. Electronics

Table 5. 7 Statistics of Electronics

N	Valid	131
	Missing	0

Table 5. 8 Distribution of Companies Selling Electronics

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	97	74,0	74,0	74,0
	1	34	26,0	26,0	100,0
	Total	131	100,0	100,0	

In our sample group, 34 firms as 26% are selling electronic products. Electronics is a segment that there are enormous numbers of details. Also, many products are launched everyday, thus, firms must renew their inventories to include all new products. Electronics require very complex supply chain network. Thus, majority of e-retailing firms do not prefer selling electronic products.

5.1.4.2. Food

Table 5. 9 Statistics of Food

N	Valid	131
	Missing	0

Table 5. 10 Distribution of Firms Selling Food and Beverages

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	107	81,7	81,7	81,7
	1	24	18,3	18,3	100,0
	Total	131	100,0	100,0	

Another field that require complex supply chain network is food selling. Keeping freshness of foods and beverages is a bit difficult. Therefore, many e-retailing firms do

not prefer including foods and beverages in their portfolio. Foods and beverages included in e-retailing firms are gourmet products such as wine, rare types of cheese, etc.

5.1.4.3. Furniture and Decoration

Table 5. 11 Statistics Furniture and Decoration

N	Valid	131
	Missing	0

Table 5. 12 Distribution of Firms Selling Furniture and Decoration

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	90	68,7	68,7	68,7
	1	41	31,3	31,3	100,0
	Total	131	100,0	100,0	

More firms prefer selling furniture and decoration products. About 31% of the sample include furniture in their portfolio.

5.1.4.4. Clothing

Table 5. 13 Statistics of Clothing

N	Valid	131
	Missing	0

Table 5. 14 Distribution of Firms Selling Clothes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	91	69,5	69,5	69,5
	1	40	30,5	30,5	100,0
	Total	131	100,0	100,0	

Another field that more firms prefer selling is clothing. This segment is also among ones boosted the development of e-retailing. 30,5% of participating firms sell clothing. The product portfolio of this segment varies from men's wear to underwear. It has a large range.

5.1.4.5. Book, Video, Games

Table 5. 15 Statistics of Book and Video Games

N	Valid	131
	Missing	0

Table 5. 16 Distribution of Firms Selling Book and Entertainment Materials

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	96	73,3	73,3	73,3
	1	35	26,7	26,7	100,0
	Total	131	100,0	100,0	

Book, video and games e-retailing is also among that boosted the development trade through internet. 26,7% percent of our sample firms sell book, video and games.

5.1.4.6. Personal Care and Cosmetics

Table 5. 17 Statistics of Personal Care and Cosmetics

N	Valid	131
	Missing	0

Table 5. 18 Distribution of Firms Selling Personal Care and Cosmetics Products

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	95	72,5	72,5	72,5
	1	36	27,5	27,5	100,0
	Total	131	100,0	100,0	

Personal care products and cosmetics is a field that has great number of product alternatives. They are commonly sold through e-retailing. 27,5% of participating firms sell those products.

5.1.4.7. White Goods

Table 5. 19 Statistics of White Goods

N	Valid	131
	Missing	0

Table 5. 20 Distribution of Firms Selling White Goods

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	110	84,0	84,0	84,0
	1	21	16,0	16,0	100,0
	Total	131	100,0	100,0	

White goods e-retailing is becoming common in Turkey. 16% of participating firms sell white goods through their web sites. Consumers wonder the logistics of their ordered products safely and if it will be as they desired. Thus, consumers still mostly prefer checking white goods physically and then purchasing.

5.1.4.8. Collection and Art

Table 5. 21 Statistics of Collection and Art

N	Valid	131
	Missing	0

Table 5. 22 Distribution of Firms Selling Collection and Art

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	123	93,9	93,9	93,9
	1	8	6,1	6,1	100,0
	Total	131	100,0	100,0	

Collectibles and art e-retailing has the lowest proportion among participating countries. Since those items require really long years of experience and only focus on this business, just 6% of participants sell those items. Most of web sites selling those items do not sell another product category.

5.1.4.9. Stationery

Table 5. 23 Statistics of Stationery

N	Valid	131
	Missing	0

Table 5. 24 Distribution of Firms Selling Stationary

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	120	91,6	91,6	91,6
	1	11	8,4	8,4	100,0
	Total	131	100,0	100,0	

Another lower rate category is stationery products. Only 8,4% of participants include those products in their portfolio. Stationery products value very low amounts, thus do not make much profit for firms. Also consumers mostly prefer visiting local stationary markets to purchase such items immediately when they need, instead of purchasing online and waiting for several days to be delivered. Therefore, stationery products are not much common in e-retailing.

5.1.4.10. Jewelry and Gold

Table 5. 25 Statistics of Jewelry and Gold

N	Valid	131
	Missing	0

Table 5. 26 Distribution of Firms Selling Jewelry and Gold

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	115	87,8	87,8	87,8
	1	16	12,2	12,2	100,0
	Total	131	100,0	100,0	

Around 12% of participating companies sell jewelry and gold. Most of those jewelries are lower priced. When prices are too high, consumers tend to prefer visiting

local store and seeing real products. High price goods lead to less of trust among consumers.

5.1.4.11. Hobby

Table 5. 27 Statistics of Hobby

N	Valid	131
	Missing	0

Table 5. 28 Distribution of Firms Selling Hobby Materials

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	105	80,2	80,2	80,2
	1	26	19,8	19,8	100,0
	Total	131	100,0	100,0	

Hobby materials e-retailing is common through internet. Around 20% of participating firms sell those products. Some of participating firms are focused solely on selling hobby materials as a niche segment.

5.1.4.12. Sport

Table 5. 29 Statistics of Sport

N	Valid	131
	Missing	0

Table 5. 30 Distribution of Firms Selling Sports Products

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	114	87,0	87,0	87,0
	1	17	13,0	13,0	100,0
	Total	131	100,0	100,0	

Sports shoes, sports clothing, sport materials selling online has 13% share in our sample.

5.1.4.13. Accessories, Watch and Glasses

Table 5. 31 Statistics of Accessory, Watch and Glasses

N	Valid	131
	Missing	0

Table 5. 32 Distribution of Firms Selling Accessories

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	89	67,9	67,9	67,9
	1	42	32,1	32,1	100,0
	Total	131	100,0	100,0	

One of most common categories that our participating firms include in their portfolio is accessories. 32% of them sell accessories, glasses and watches. However, majority of this category is composed of accessories. Consumers do not much prefer buying watch and glasses online.

5.1.4.14. Other

Table 5. 33 Statistics of Other

N	Valid	131
	Missing	0

Table 5. 34 Distribution of Firms Selling Other Materials and Products

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	74	56,5	56,5	56,5
	1	57	43,5	43,5	100,0
	Total	131	100,0	100,0	

Highest weighted category is others with 43,5%. This category includes all products and services excluded from above categories. Some examples may be photography equipments, toys, petshop, construction materials, gardening, products babies, online bill payment, consultancy services, etc. Those unlisted category number is

much but they are very rare among participating firms and have small weight in sales. Therefore, they are grouped under "Others".

5.2. FACTOR ANALYSIS

5.2.1. Upstream SCM Practices Factor Analysis

In Table 5.35, it can be seen that the rate of sample suitability factor analysis variables (Kaisser-Meyer-Olkin Measure of sampling) 0,778 is a moderately high rate. Field Notes (2005) values that exceed.70 are relatively high when measuring the adequacy of a sample. In the case of Bartlett's test of sphericity significance value (0,00) is less than 0,05 that means it is suitable for analysis.

Table 5. 35 KMO and Bartlett's Test Results

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,778
Bartlett's Test of Sphericity	Approx. Chi-Square	729,471
	df	120
	Sig.	0,00

In Table 5.36 we see the eigenvalues extracted for each variance factors. It can be seen that 3 of them exceed the value of 1 and that explained 56,335 percent of the cumulative variance. Field (2005) and Burga (2005) that values exceeding 1 Eigenvalues are items that is appropriate to include in a questionnaire. Similarly Burga (2005) raises that in the case of the total variance explained, a tool must have at least 30 percent of the total variance in the first factor extracted in this case represents the 23,145 percent. In the case of the sum of the rotations or Sums of Squared Loadings Rotation they exceed the value of 1 in the 3 items. Why include the first three factors (items) in the supply chain practices questionnaire.

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Table 5. 36 Total Variance Explained for Upstream SCM Practices Factor Analysis

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,703	23,145	23,145	3,169	19,809	19,809
2	3,139	19,617	42,761	2,964	18,525	38,334
3	2,172	13,574	56,335	2,880	18,000	56,335
4	0,974	6,087	62,422			
5	0,822	5,138	67,560			
6	0,770	4,811	72,371			
7	0,708	4,427	76,798			
8	0,566	3,539	80,337			
9	0,545	3,404	83,741			
10	0,480	2,999	86,740			
11	0,470	2,937	89,677			
12	0,415	2,595	92,272			
13	0,363	2,270	94,542			
14	0,337	2,103	96,645			
15	0,299	1,867	98,513			
16	0,238	1,487	100,000			

Extraction Method: Principal Component Analysis.

Table 5. 37 Rotated Component Matrix for Upstream SCM Practices Factor Analysis

	Component		
	1	2	3
ssp4	0,840	0,121	0,126
ssp3	0,831		
ssp2	0,772		0,111
ssp1	0,771		
ssp5	0,641	0,131	0,248
is2	-0,133	0,797	
is4	0,164	0,725	
is6	0,139	0,696	-0,135
is3		0,687	
is1		0,660	
is5		0,585	
qi1	0,138		0,808
qi4			0,765
qi3			0,758
qi5			0,694
qi2	0,233		0,678

Extraction Method: Principal Component Analysis.

 Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

In general, it was observed that the factors (dimensions) if the items are made by that had been specified, however, there are differences with previously established. While certain attributes it loaded more in another factor, just as it decided to maintain the present dimension, since the theory was prioritized over the results.

The factors were determined as follows:

Factor 1: is the Strategic Supplier Partnership (ssp) and is composed of 5 attributes.

Factor 2: represents the level of information sharing (is), this dimension originally has six attributes.

 Factor 3: corresponds to the connection with the quality of information sharing (qi), and is composed of five attributes, all of which have significant value.

5.2.2. Organizational Performance Factor Analysis

In Table 5.38, it can be seen that the rate of sample suitability factor analysis variables (Kaisser-Meyer-Olkin Measure of sampling) 0,773 is a high rate In the case of Bartlett's test of sphericity significance value (0,000) is less than 0,005 that means it is suitable to analysis.

Table 5. 38 KMO and Bartlett's Test for Organizational Performance Factor Analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,773
Bartlett's Test of Sphericity	Approx. Chi-Square	312,098
	df	21
	Sig.	0,00

In Table 5.39, it is seen that initial eigenvalues total of 2 components exceed the value of 1 and that explained 62,915 percent of the cumulative variance. In the case of the sum of the rotations or Sums of Squared Loadings Rotation they exceed the value of 1 in the 2 items. Therefore, we can included first two factor in the Organizational Performance Questionnaire.

Table 5. 39 Total Variance Explained for Organizational Performance Factor Analysis

Component		Initial Eigenvalues			Rotation Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
	1	3,279	46,836	46,836	3,272	46,742	46,742
	2	1,126	16,08	62,915	1,132	16,173	62,915
	3	0,996	14,231	77,146			
	4	0,527	7,522	84,668			
	5	0,429	6,128	90,797			
	6	0,353	5,04	95,836			
	7	0,291	4,164	100			

Extraction Method: Principal Component Analysis.

In Table 5.40, it is tried to include 7 questions to test factorability. However, op7_c question showed trying to represent a factor alone. In social sciences, a single question

cannot explain a factor, we excluded op7_c question then we restarted our analysis with 6 questions. Those 6 questions can indicate a factor.

Table 5. 40 Rotated Component Matrix for Organizational Performance Factor Analysis

	Component	
	1	2
op2	0,814	
op6	0,788	-0,172
op4	0,773	0,138
op3	0,700	
op5	0,675	
op1	0,663	0,418
op7_c		0,945

Extraction Method: Principal

Component Analysis.

Rotation Method: Varimax with

Kaiser Normalization.

a. Rotation converged in 3 iterations.

In Table 5.41, it can be seen that the rate of sample Adequacy factor analysis variables (Kaisser-Meyer-Olkin Measure of sampling) 0,793 is a high rate. It improved from before test. In the case of Bartlett's test of sphericity significance value (0,00) is less than 0,05 that means it is suitable to analysis.

Table 5. 41 KMO and Bartlett's Test for Organizational Performance Factor Analysis after Excluding Question

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,793
Bartlett's Test of Sphericity	Approx. Chi-Square	298,436
	df	15
	Sig.	0,00

In Table 5.42, it is seen that initial eigenvalues total of one component exceeds the value of 1 and that explained 54,637 percent of the cumulative variance. Therefore, we can include the first factor in the Organizational Performance Questionnaire.

Table 5. 42 Total Variance Explained for Organizational Performance Factor Analysis after Excluding the Question

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	3,278	54,637	54,637
2	0,996	16,603	71,239
3	0,642	10,696	81,935
4	0,429	7,153	89,088
5	0,356	5,925	95,013
6	0,299	4,987	100

Extraction Method: Principal Component Analysis.

Similar to before analysis, only one component of initial eigenvalue total value exceeded 1 with cumulative 54,637 percent. Thus, we include the first factor in the Organizational Performance Questionnaire.

Table 5. 43 Rotated Component Matrix for Organizational Performance Factor Analysis after Excluding Question

Rotated Component Matrix[a]

a. Only one component was extracted. The solution cannot be rotated.

5.2.3. E-Commerce System Success Factors Factor Analysis

In Table 5.44, it can be seen that the rate of sample Adequacy factor analysis variables (Kaisser-Meyer-Olkin Measure of sampling) 0,802 is a relatively high rate. In the case of Bartlett's test of sphericity significance value (0,00) is less than 0,05 that means it is suitable to analyze.

Table 5. 44 KMO and Bartlett's Test for E-commerce System Success Factors Factor Analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,802
Bartlett's Test of Sphericity	Approx. Chi-Square	1943,785
	df	378
	Sig.	0,00

In Table 5.45, it is seen that initial eigenvalues total of 7 components exceed the value of 1 and that explained 66,291 percent of the cumulative variance. In the case of the sum of the rotations or Sums of Squared Loadings Rotation they exceed the value of 1 in the 7 items. Therefore, we can include first seven factor in this study.

Table 5. 45 Total Variance Explained for E-commerce System Success Factors Factor Analysis

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7,112	25,399	25,399	4,157	14,847	14,847
2	4,269	15,246	40,645	3,853	13,761	28,608
3	2	7,142	47,787	3,55	12,678	41,286
4	1,616	5,771	53,558	2,463	8,798	50,084
5	1,458	5,206	58,764	2,159	7,709	57,793
6	1,101	3,93	62,694	1,219	4,355	62,148
7	1,007	3,597	66,291	1,16	4,143	66,291
8	0,954	3,408	69,699			
9	0,842	3,007	72,706			
10	0,803	2,867	75,573			
11	0,755	2,698	78,271			
12	0,648	2,314	80,585			
13	0,624	2,227	82,813			
14	0,588	2,102	84,914			
15	0,552	1,97	86,885			
16	0,507	1,812	88,697			
17	0,487	1,738	90,435			
18	0,401	1,431	91,866			
19	0,372	1,328	93,194			
20	0,326	1,164	94,358			
21	0,296	1,057	95,415			
22	0,279	0,996	96,411			
23	0,263	0,938	97,349			
24	0,232	0,827	98,176			
25	0,173	0,616	98,792			
26	0,154	0,55	99,343			
27	0,146	0,521	99,864			
28	0,038	0,136	100			

Extraction Method: Principal Component Analysis.

Table 5. 46 Rotated Component Matrix for E-commerce System Success Factors Factor Analysis

	Component						
	1	2	3	4	5	6	7
iq7	0,866					0,137	
iq5	0,822		0,105		-0,146		
iq1	0,813		0,103				0,133
iq3	0,796						
iq6	0,788	0,115		0,243		0,211	
iq2	0,762		0,143		-0,154	-0,112	-0,112
sysq4		0,885	0,195				
sysq3		0,882	0,206				
sysq5		0,703	0,102	0,312	0,134		
sysq2		0,666	0,303		0,102		
sysq7	0,121	0,629	0,175	0,223		0,167	
sysq6	-0,173	0,594	0,239	0,121	0,133	-0,237	
pu2		0,154	0,766	0,192			
pu4		0,228	0,762		0,133	-0,122	0,182
pu1		0,318	0,756	0,181			
pu3		0,276	0,751	0,215			0,157
pu6	0,170	0,175	0,579	0,128			-0,116
pu5	0,125	0,124	0,515	0,283	0,204	0,265	-0,331
us2		0,109	0,219	0,750		0,256	
us4	0,153	0,285	0,132	0,696	0,222		
us3	0,136	0,172	0,297	0,686	0,110	-0,276	0,105
us1			0,249	0,561		-0,237	0,339
serq1		0,252			0,774		0,130
serq3		0,161		0,242	0,732		
serq4	-0,147	0,108	0,169		0,693		-0,115
serq2	-0,208	-0,146	0,255	0,293	0,512	0,122	
sysq1_c	0,139	0,121				0,848	
iq4_c		0,117		0,124			0,869

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

In Table 5.46, only iq4_c question indicates one factor However, a single question cannot indicate a factor. Thus, we cancelled iq4_c question, and restarted our test.

In Table 5.47, it is seen that the rate of sample Adequacy factor analysis variables (Kaisser-Meyer-Olkin Measure of sampling) 0,808 is a relatively high rate. In the case of

Bartlett's test of sphericity significance value (0,00) is less than 0,05 that means it is suitable to analysis.

Table 5. 47 KMO and Bartlett's Test after Cancelling Iq4_c Question

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,808
Bartlett's Test of Sphericity	Approx. Chi-Square	1914,622
	df	351
	Sig.	0,00

In Table 5.48, after canceling iq4_c question, it is decided to consider six factors, not considering the factor 7, having a total eigenvalue greater than 1. Therefore first six factors are included in this study.

Table 5. 48 Total Variance Explained after Cancelling Iq4_c Question

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7,053	26,122	26,122	4,146	15,355	15,355
2	4,261	15,783	41,905	3,818	14,14	29,495
3	1,994	7,386	49,291	3,545	13,129	42,624
4	1,615	5,981	55,272	2,504	9,273	51,897
5	1,425	5,277	60,549	2,144	7,939	59,836
6	1,064	3,942	64,49	1,257	4,655	64,49
7	0,954	3,534	68,025			
8	0,866	3,208	71,233			
9	0,816	3,021	74,254			
10	0,777	2,878	77,132			
11	0,656	2,428	79,56			
12	0,638	2,364	81,925			
13	0,591	2,189	84,114			
14	0,557	2,064	86,178			
15	0,511	1,891	88,069			
16	0,489	1,813	89,882			
17	0,406	1,503	91,385			
18	0,376	1,391	92,775			
19	0,346	1,283	94,058			
20	0,308	1,141	95,199			
21	0,283	1,049	96,249			
22	0,263	0,975	97,224			
23	0,232	0,86	98,084			
24	0,176	0,651	98,734			
25	0,155	0,574	99,308			
26	0,146	0,542	99,85			
27	0,041	0,15	100			

Extraction Method: Principal Component Analysis.

Table 5. 49 Rotated Component Matrix after Cancelling iq4_c Question

	Component					
	1	2	3	4	5	6
iq7	0,865				-0,100	0,142
iq5	0,821		0,105		-0,149	
iq1	0,814		0,106			
iq3	0,797					
iq6	0,786	0,115		0,239		0,216
iq2	0,759		0,144		-0,164	
sysq3		0,883	0,209			
sysq4		0,881	0,197			
sysq5		0,699	0,103	0,311	0,131	
sysq2		0,669	0,305		0,109	
sysq7	0,119	0,630	0,176	0,227		0,162
sysq6	-0,175	0,590	0,241	0,134	0,131	-0,210
pu4		0,232	0,766		0,137	-0,142
pu2		0,156	0,763	0,201		
pu1		0,314	0,756	0,185		
pu3		0,279	0,752	0,229		
pu6	0,166	0,165	0,579	0,119		
pu5	0,117	0,101	0,513	0,243	0,178	0,386
us2		0,105	0,213	0,739		0,285
us3	0,132	0,169	0,297	0,706	0,105	-0,235
us4	0,147	0,273	0,131	0,693	0,207	
us1			0,246	0,604		-0,307
serq1		0,257			0,781	
serq3		0,160		0,248	0,733	
serq4	-0,147		0,170		0,687	
serq2	-0,209	-0,149	0,253	0,291	0,510	0,131
sysq1_c	0,137	0,124		-0,111		0,812

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

In Table 5.49, sysq1_c question showed indicating a factor, but there is not second question for the same factor. Thus, sysq1_c is cancelled question, then the factor analysis is restarted.

Table 5. 50 KMO and Bartlett's Test after Cancelling sysq1_c Question

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,817
Bartlett's Test of Sphericity	Approx. Chi-Square	1877,012
	df	325
	Sig.	0,00

In Table 5.50, the rate of sample Adequacy factor analysis variables (Kaisser-Meyer-Olkin Measure of sampling) 0,817 is a relatively high rate. . In the case of Bartlett's test of sphericity significance value (0,00) is less than 0,05 that means it is suitable to analysis..

In Table 5.51, after cancelling sysq1_c question, we have taken the decision to consider five factors, not considering the factor 6, having an total eigenvalue greater than 1. Therefore first five factors are included in this study.

Table 5. 51 Total Variance Explained after Cancelling sysq1_c Question

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7,02	27,001	27,001	4,15	15,963	15,963
2	4,241	16,313	43,314	3,809	14,65	30,613
3	1,975	7,596	50,91	3,497	13,449	44,062
4	1,599	6,15	57,06	2,534	9,747	53,809
5	1,326	5,1	62,161	2,171	8,352	62,161
6	0,962	3,7	65,861			
7	0,907	3,488	69,349			
8	0,865	3,326	72,675			
9	0,791	3,042	75,718			
10	0,672	2,583	78,301			
11	0,65	2,5	80,801			
12	0,605	2,326	83,127			
13	0,581	2,236	85,363			
14	0,511	1,964	87,327			
15	0,499	1,919	89,246			
16	0,407	1,564	90,81			
17	0,377	1,45	92,26			
18	0,346	1,332	93,593			
19	0,315	1,21	94,803			
20	0,302	1,161	95,964			
21	0,274	1,054	97,018			
22	0,248	0,955	97,973			
23	0,18	0,691	98,664			
24	0,156	0,6	99,264			
25	0,151	0,579	99,843			
26	0,041	0,157	100			

Extraction Method: Principal Component Analysis.

According to Table 5.52, the factors are determined as follows:

Factor 1: is the information quality (iq) and is composed of 6 attributes. Most variables have significant value implying that are representative of this dimension. The variables with the highest correlation with factor 1 is iq7, iq5, iq6, iq1, iq3, iq2. This factor can be interpreted as the importance of quality and good design of information system in user satisfaction and perceived usefulness.

Factor 2: represents the system quality (sysq), this dimension originally has six attributes.

Factor 3: corresponds to the connection with the perceived usefulness (pu), and is composed of six attributes. All of them have significant value.

Factor 4: represents the user satisfaction (us), this dimension originally has four attributes.

Factor 5: represents the service quality (serq), this dimension originally has four attributes.

An analysis of the factors identified and interpreted. It is verified that are consistent with the constructs considered in the questionnaire used to characterize the user satisfaction and perceived usefulness, meaning that the questionnaire is valid to obtain the information necessary to conduct the study.

Table 5. 52 Rotated Component Matrix after Cancelling sysq1_c Question

	Component				
	1	2	3	4	5
iq7	0,877				
iq5	0,824		0,115		-0,147
iq6	0,810	0,118		0,214	
iq1	0,798		0,104		
iq3	0,789				
iq2	0,752		0,146		-0,172
sysq3		0,885	0,214		
sysq4		0,884	0,203		
sysq5		0,701	0,102	0,300	0,149
sysq2		0,669	0,304		
sysq7	0,134	0,634	0,176	0,226	
sysq6	-0,202	0,583	0,223	0,175	
pu4		0,225	0,756		
pu1		0,316	0,753	0,199	
pu2		0,153	0,752	0,241	
pu3		0,280	0,750	0,237	
pu6	0,170	0,166	0,583	0,119	
pu5	0,167	0,116	0,537	0,181	0,257
us3	0,102	0,155	0,264	0,753	
us4	0,149	0,270	0,114	0,700	0,215
us2		0,113	0,217	0,688	0,145
us1			0,210	0,663	
serq1		0,261			0,765
serq3		0,166		0,227	0,743
serq4	-0,157	0,104	0,170		0,664
serq2	-0,186	-0,140	0,263	0,245	0,556

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

5.3. RELIABILITY ANALYSIS OF FACTORS

5.3.1. Reliability Analysis of Strategic Supplier Partnership

In Table 5.53, a cronbach's alpha greater than 0.80 is considered acceptable. We have obtained 0,841 cronbach's alpha value that means this factor is reliable. In Table 5.54, we can see no attribute which have Cronbach's Alpha if Item Deleted value greater than 0,841.

Table 5. 53 Reliability Statistics for Strategic Supplier Partnership

Cronbach's Alpha	N of Items
0,841	5

Table 5. 54 Item-Total Statistics for Strategic Supplier Partnership

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ssp1	11,37	4,744	0,592	0,824
ssp2	11,36	4,770	0,641	0,810
ssp3	11,56	4,679	0,722	0,789
ssp4	11,47	4,451	0,744	0,781
ssp5	11,56	4,926	0,541	0,837

5.3.2. Reliability Analysis of Level of Information Sharing

According to Table 5.55, it is seen that the reliability of this scale occurred as with cronbach's alpha value 0,785. This rate is acceptable and reliable. It is not advisable to delete any item because when deleted a single item, then cronbach's alpha value decreases to original 6 item cronbach's alpha value.

Table 5. 55 Reliability Statistics for Level of Information Sharing

Cronbach's Alpha	N of Items
0,785	6

Table 5. 56 Item-Total Statistics for Level of Information Sharing

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
is1	17,04	7,483	0,485	0,765
is2	16,68	6,835	0,624	0,730
is3	17,32	6,896	0,531	0,755
is4	16,73	7,259	0,588	0,741
is5	17,12	7,600	0,432	0,777
is6	16,67	7,253	0,562	0,747

5.3.3. Reliability Analysis of Quality of Information Sharing

We can see that Cronbach's alpha value is 0.806 in Table 5.57, which shows a high level of internal consistency for our scale with this sample with these 5 items. It is not advisable to delete no item in Table 5.58 from the scale. However, when deleting any single item, all alpha values decline to below 0,806, and we keep all items in our scale. All these items have good and reliable correlation with our scale.

Table 5. 57 Reliability Statistics for Quality of Information Sharing

Cronbach's Alpha	N of Items
0,806	5

Table 5. 58 Item-Total Statistics for Quality of Information Sharing

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
qi1	14,63	5,465	0,676	0,742
qi2	14,86	5,827	0,559	0,778
qi3	14,85	5,777	0,590	0,769
qi4	14,98	5,400	0,612	0,762
qi5	14,72	6,097	0,522	0,789

5.3.4. Reliability Analysis of Organizational Performance

It can be seen that Cronbach's alpha value is 0.830 in Table 5.59, which shows a high level of internal consistency for our scale with this sample with these 6 items. It is

not advisable to delete an item in Table 5.60 from the scale. However, when deleting any single item, cronbach's alpha values decline to below 0,830, and we keep all items in our scale. All these items have good and reliable correlation with our scale.

Table 5. 59 Reliability Statistics for Organizational Performance

Cronbach's Alpha	N of Items
0,830	6

Table 5. 60 Item-Total Statistics for Organizational Performance

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
op1	19,23	10,163	0,548	0,814
op2	19,05	10,013	0,697	0,784
op3	19,26	10,148	0,556	0,812
op4	19,35	10,122	0,660	0,791
op5	19,20	10,560	0,520	0,818
op6	19,41	9,767	0,641	0,794

5.3.5. Reliability Analysis of User Satisfaction

User satisfaction items in our scale are acceptable as having 0,766 cronbach's alpha value. There are 4 items and none of them is advised to delete. Especially us3 and us4 are more significant in our scale because deleting any will lead to decline in alpha value to below minimum rate. Also, those two items have high correlation with our sample as seen from Table 5.62.

Table 5. 61 Reliability Statistics for User Satisfaction

Cronbach's Alpha	N of Items
0,766	4

Table 5. 62 . Item-Total Statistics for User Satisfaction

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
us1	11,75	2,851	0,475	0,758
us2	11,41	2,706	0,521	0,735
us3	11,76	2,505	0,673	0,651
us4	11,68	2,696	0,605	0,690

5.3.6. Reliability Analysis of Perceived Usefulness

As seen in Table 5.63, all six items are acceptable because of having 0,855 cronbach's alpha value. This alpha value is relatively high meaning that perceived usefulness questions are measuring our hypotheses efficiently and the factor is reliable.

Table 5. 63 Reliability Statistics for Perceived Usefulness

Cronbach's Alpha	N of Items
0,855	6

In Table 5.64, any of items is not advised to delete since all of them having significant correlations. However, deleting pu5 and pu6 would have small impact on the scale because those two items have lowest correlation rates and alpha values do not change when deleted.

Table 5. 64 Item-Total Statistics for Perceived Usefulness

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
pu1	19,77	11,578	0,735	0,812
pu2	19,54	12,312	0,674	0,825
pu3	19,82	11,689	0,741	0,811
pu4	19,61	12,363	0,677	0,824
pu5	19,69	13,660	0,512	0,853
pu6	19,47	13,789	0,513	0,853

5.3.7. Reliability Analysis of Service Quality

Table 5. 65 Reliability Statistics for Service Quality

Cronbach's Alpha	N of Items
0,696	4

As seen from Table 5.65, cronbach's alpha value occurred as 0,696. It is near the value 0,7. Because of small number of participants it is accepted as reliable.

Table 5. 66 Item-Total Statistics for Service Quality

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
serq1	10,04	4,052	0,548	0,591
serq2	10,32	4,158	0,399	0,688
serq3	10,37	3,942	0,550	0,587
serq4	10,02	4,354	0,437	0,658

5.3.8. Reliability Analysis of System Quality

Based on the results from Table 5.67, it can be argued that there is high internal reliability in our scale for 6 items as cronbach's alpha value occurred as 0,867. As seen from Table 5.68, it is not advised to delete any item, none of them improves cronbach's alpha value when deleted. However, a single item deleted does not affect the reliability of the scale too much. All questions aimed to evaluate system quality are consistent with our sample. Therefore this factor is accepted as reliable.

Table 5. 67 Reliability Statistics for System Quality

Cronbach's Alpha	N of Items
0,867	6

Table 5. 68 Item-Total Statistics for System Quality

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
sysq2	19,62	11,838	0,610	0,858
sysq3	19,73	11,474	0,840	0,811
sysq4	19,74	11,055	0,833	0,811
sysq5	19,37	12,726	0,630	0,850
sysq6	19,18	13,628	0,534	0,865
sysq7	19,38	13,961	0,568	0,861

5.3.9. Reliability Analysis of Information Quality

According to table 5.69, cronbach's alpha value occurred as 0,900 for this scale, thus it is acceptable with 6 items.

Table 5. 69 Reliability Statistics for Information Quality

Cronbach's Alpha	N of Items
0,900	6

Based on table 5.70, none of items is advised to delete. In fact, when any item is deleted, alpha values decline below the original level. Most significant item is iq7 since it has the highest correlation ratio. This factor is accepted as reliable.

Table 5. 70 Item-Total Statistics for Information Quality

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
iq1	18,56	18,617	0,698	0,887
iq2	18,82	17,812	0,686	0,889
iq3	18,81	17,956	0,687	0,889
iq5	18,69	18,047	0,755	0,879
iq6	18,67	17,945	0,734	0,881
iq7	18,66	16,732	0,816	0,868

5.4. REGRESSION ANALYSIS OF THE MODELS

5.4.1. Model 1 Regression Analysis

Regression analysis is performed between upstream SCM practices (strategic supplier partnership, level of information sharing, quality of information sharing) and organizational performance. The main results of the model are given in Table 5.71. According to Table 5.71, the coefficient of determination R^2 is 0.328 which means that 32.8% of organizational performance variation is explained by the dimensions. The remaining 67.2% of the variation is identified by other factors not captured in the model. The ANOVA analysis related to the regression model is performed and the results are given in Table 5.72. According to Table 5.72, the significance value of the analysis is 0.00<0.05 which means that the dependent variable can be explained by the independent variables at 95% confidence level. After this examination, the detailed information about the regression analysis which includes the coefficients of independent variables, their test statistics and the collinearity statistics are given in Table 5.73. According to Table 5.73, three independent variables namely; strategic supplier partnership, level of information

sharing and quality of information sharing are significant at the 95% confidence level. That means these variables are positively significant with organizational performance. There is no independent variable which is not significant.

Table 5. 71 Model Summary for Model 1

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
0,573ᵃ	0,328	0,313	0,51896	1,798

a. Predictors: (Constant), qi, is, ssp
b. Dependent Variable: op

Table 5. 72 Anova for Model 1

	Sum of Squares	df	Mean Square	F	Sig.
Regression	16,732	3	5,577	20,709	0,000ᵃ
Residual	34,204	127	0,269		
Total	50,936	130			

a. Predictors: (Constant), qi, is, ssp

b. Dependent Variable: op

Table 5. 73 Coefficients for Model 1

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	0,610	0,455		1,341	0,182		
ssp	0,466	0,089	0,396	5,252	0,000	0,929	1,076
is	0,259	0,088	0,218	2,952	0,004	0,971	1,029
qi	0,278	0,081	0,259	3,443	0,001	0,936	1,068

a. Dependent Variable: op

The assumptions of the regression model related to residuals are examined for the validity of the analysis. According to the plots in Figure 5.2, there is no problem for homoscedasticity and normality. It can be seen in Table 5.71 that the residuals are not correlated since the Durbin-Watson statistics is equal to nearly two. The other assumption which has to be examined is multicollinearity. According to Table 5.73, Variance Inflation Factor (VIF) scores for each independent variable 1.076 for strategic supplier partnership, 1.029 for level of information sharing, 1.068 for quality of information sharing are lower than 10. Condition index scores for each independent variable in Table

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5.74 are lower than 30 .Therefore, it can be assumed that there is no strong linear relationship among these variables. As a result, it can be said that the assumptions are satisfied for the regression model.

Table 5. 74 Collinearity Diagnostics for Model 1

Dimension		Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	ssp	is	qi
	1	3,943	1,000	0,00	0,00	0,00	0,00
	2	0,027	12,140	0,00	0,21	0,50	0,18
	3	0,023	13,135	0,01	0,76	0,00	0,40
	4	0,007	23,510	0,98	0,03	0,49	0,42

a. Dependent Variable: op
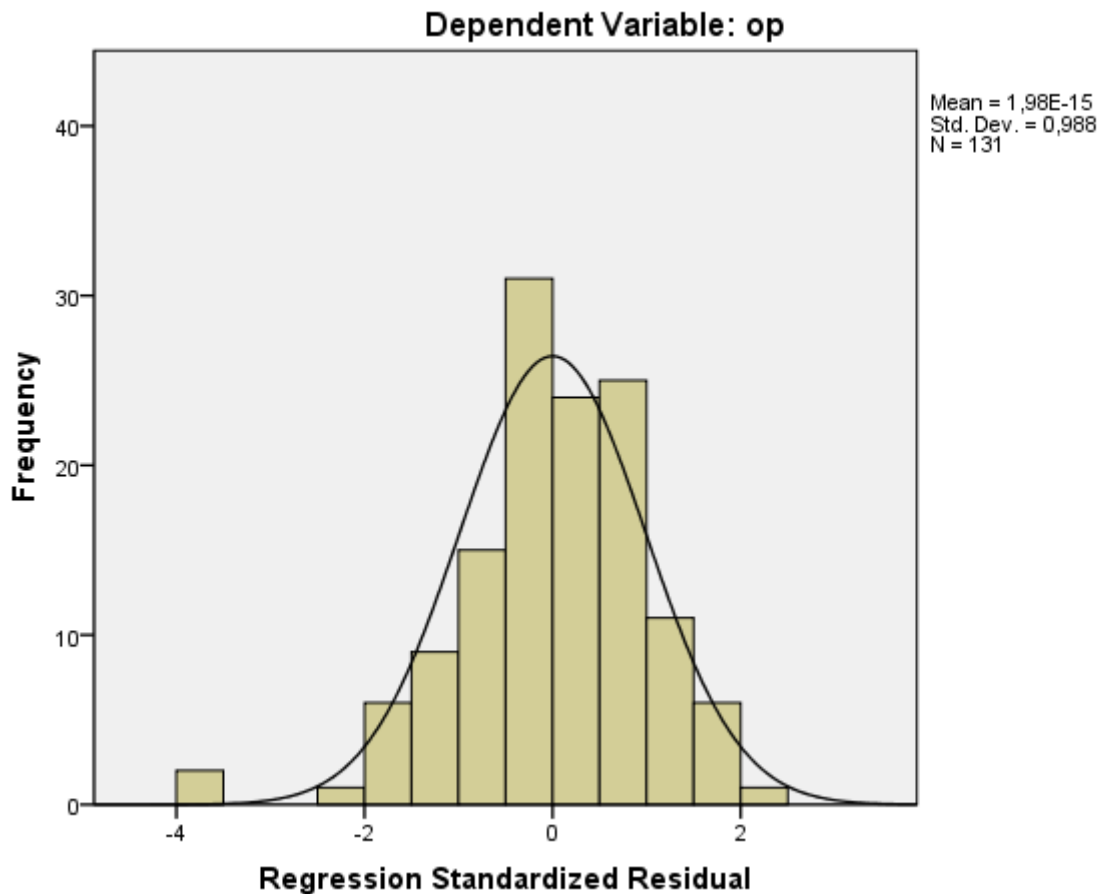
Figure 5. 1 Regression Standardized Residual for Model 1

As it can be observed from the Figure 5.1, the standardized residuals are generally "well-behaving." They do not show any significant departures from normality

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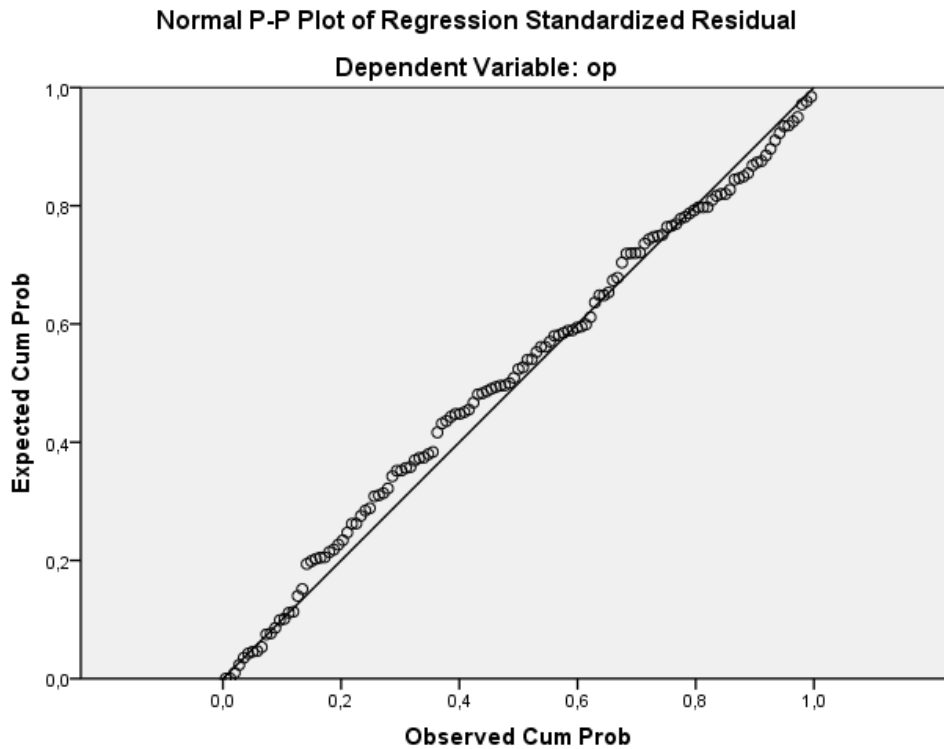
Figure 5. 2 Observed Cum Prob for Model 1

The average level of upstream SCM practices in e-tailing in Turkey relating to the various dimensions registered a mean scores of 2.8656 (strategic supplier partnership), 3.3855 (level of information sharing), 3.7023 and (quality of information sharing). Given the average scores of the three dimensions of upstream SCM practices, it appears that the score for strategic supplier partnership is lower than level of information sharing, followed by quality of information sharing. These results suggest the need to have more improvement in the strategic supplier partnership than others, because it has lower mean score than others. Also it can be seen that there is a need to have improvement in level of information sharing and quality of information sharing.

5.4.2. Model 2 Regression Analysis

Regression analysis is performed between e-commerce system success factors (user satisfaction, perceived usefulness) and organizational performance. The main results of the model are given in Table 5.75. According to Table 5.75, the coefficient of determination R^2 is 0.444 which means that 44.4% of organizational performance

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variation is explained by the dimensions. The remaining 55.6% of the variation is identified by other factors not captured in the model. The ANOVA analysis related to the regression model is performed and the results are given in Table 5.76. According to Table 5.76, the significance value of the analysis is 0.00<0.05 which means that the dependent variable can be explained by the independent variables at 95% confidence level. After this examination, the detailed information about the regression analysis which includes the coefficients of independent variables, their test statistics and the collinearity statistics are given in Table 5.77. According to Table 5.77, two independent variables namely; user satisfaction and perceived usefulness are significant at the 95% confidence level. That means these variables are positively significant with organizational performance. There is no independent variable which is not significant.

Table 5. 75 Model Summary for Model 2

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
0,666[a]	0,444	0,435	0,47050	1,915

a. Predictors: (Constant), pu, us
b. Dependent Variable: op

Table 5. 76 Anova for Model 2

	Sum of Squares	df	Mean Square	F	Sig.
Regression	22,601	2	11,301	51,050	0,000[a]
Residual	28,335	128	0,221		
Total	50,936	130			

a. Predictors: (Constant), pu, us

b. Dependent Variable: op

Table 5. 77 Coefficients for Model 2

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	0,718	0,318		2,253	0,026		
us	0,490	0,092	0,412	5,308	0,000	0,722	1,385
pu	0,313	0,069	0,350	4,506	0,000	0,722	1,385

a. Dependent Variable: op

The assumptions of the regression model related to residuals are examined for the validity of the analysis. According to the plots in Figure 5.3, there is no problem for

homoscedasticity and normality. It can be seen in Table 5.75 that the residuals are not correlated since the Durbin-Watson statistics is equal to nearly two. The other assumption which has to be examined is multicollinearity. According to Table 5.77, Variance Inflation Factor (VIF) scores for each independent variable 1.385 for user satisfaction, 1.385 for perceived usefulness, are lower than 10. Condition index scores for each independent variable in Table 5.78 are lower than 30 .Therefore, it can be assumed that there is no strong linear relationship among these variables. As a result, it can be said that the assumptions are satisfied for the regression model

Table 5. 78 Collinearity Diagnostics for Model 2

Dimension		Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	us	pu
	1	2,976	1,000	0,00	0,00	0,00
	2	0,016	13,754	0,37	0,03	0,86
	3	0,008	18,816	0,63	0,97	0,14

a.   Dependent Variable: op

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: op
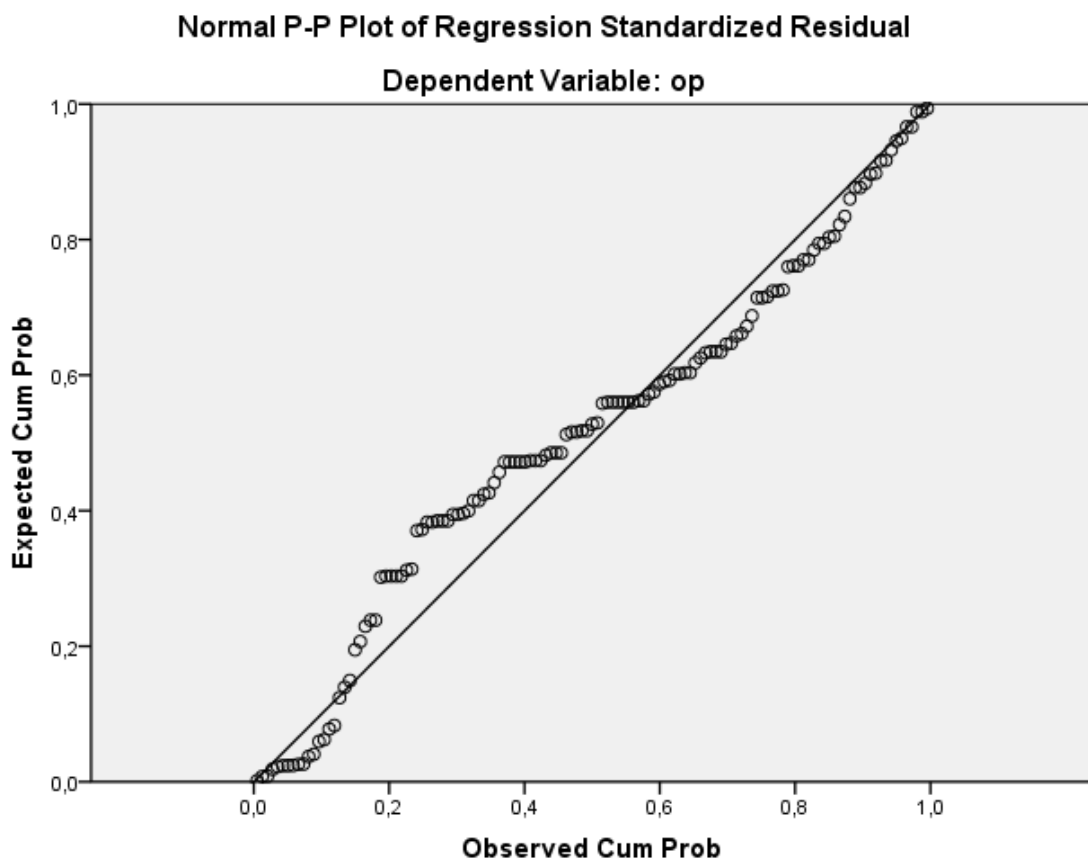
Figure 5. 3 Observed Cum Prob for Model 2
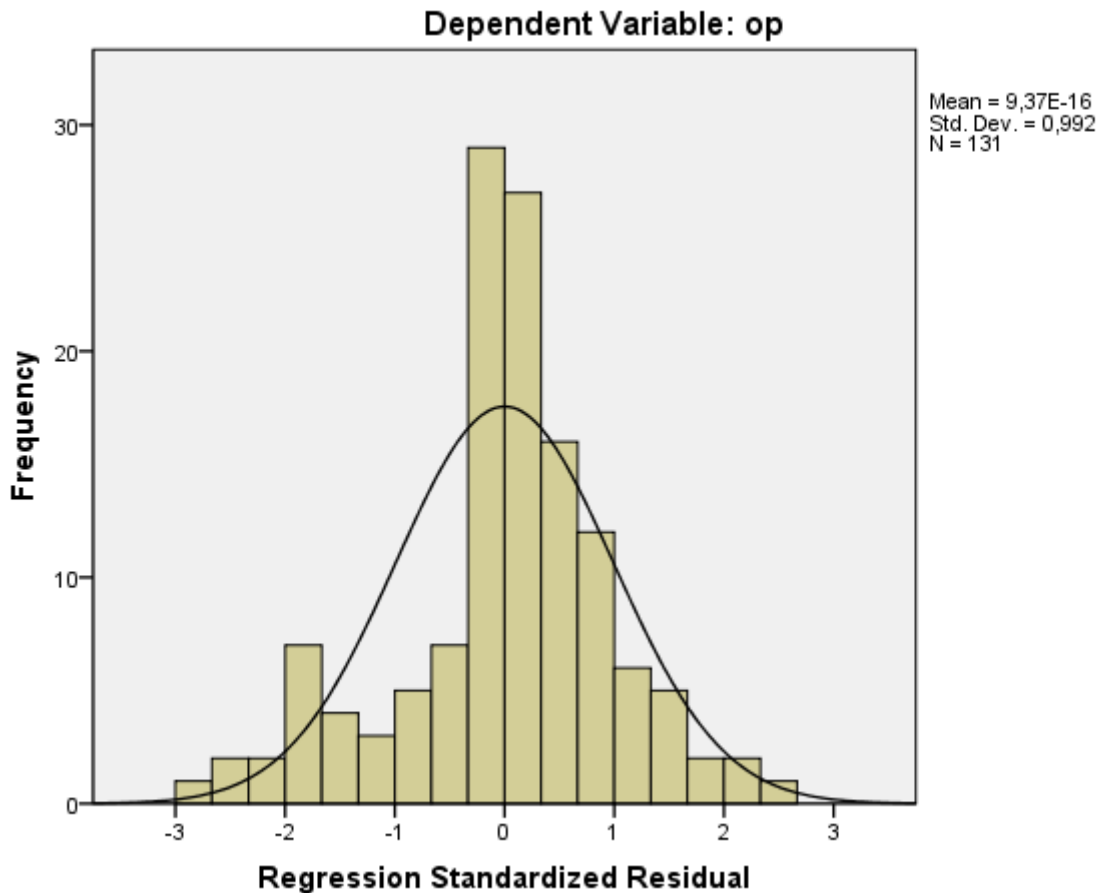
Figure 5. 4 Regression Standardized Residual for Model 2

The average level of e-commerce success factors in e-tailing in Turkey relating to the various dimensions registered a mean scores of 3.8836 (user satisfaction), 3.9300 (perceived usefulness). Given the average scores of the two dimensions of of e-commerce success factors, it appears that the score for user satisfaction is lower than perceived usefulness. These results suggest the need to have improvement in user satisfaction and perceived usefulness.

5.4.3. Model 3 Regression Analysis

Regression analysis is performed between upstream SCM practices (strategic supplier partnership, level of information sharing, quality of information sharing), e-commerce system success factors (user satisfaction, perceived usefulness) and organizational performance. The main results of the model are given in Table 5.79.

According to Table 5.79, the coefficient of determination R^2 is 0.567 which means that 56.7% of organizational performance variation is explained by the dimensions. The remaining 43.3% of the variation is identified by other factors not captured in the model. The ANOVA analysis related to the regression model is performed and the results are given in Table 5.80. According to Table 5.80, the significance value of the analysis is 0.00<0.05 which means that the dependent variable can be explained by the independent variables at 95% confidence level. After this examination, the detailed information about the regression analysis which includes the coefficients of independent variables, their test statistics and the collinearity statistics are given in Table 5.81. According to Table 5.81, five independent variables namely; strategic supplier partnership, level of information sharing, quality of information sharing, user satisfaction and perceived usefulness are significant at the 95% confidence level. That means these variables are positively significant with organizational performance. There is no independent variable which is not significant.

Table 5. 79 Model Summary for Model 3

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
0,753[a]	0,567	0,549	0,42014	1,907

a. Predictors: (Constant), pu, is, qi, ssp, us
b. Dependent Variable: op

Table 5. 80 ANOVA for Model 3

	Sum of Squares	df	Mean Square	F	Sig.
Regression	28,872	5	5,774	32,712	0,000[a]
Residual	22,065	125	0,177		
Total	50,936	130			

a. Predictors: (Constant), pu, is, qi, ssp, us

b. Dependent Variable: op

Table 5. 81 Coefficients for Model 3

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	-0,792	0,406		-1,952	0,053		
ssp	0,310	0,077	0,264	4,013	0,000	0,800	1,249
is	0,183	0,072	0,154	2,526	0,013	0,935	1,069
qi	0,173	0,067	0,161	2,573	0,011	0,885	1,130
us	0,420	0,086	0,353	4,903	0,000	0,667	1,499
pu	0,219	0,066	0,245	3,302	0,001	0,629	1,589

a. Dependent Variable: op

The assumptions of the regression model related to residuals are examined for the validity of the analysis. According to the plots in Fiqure 5.5, there is no problem for homoscedasticity and normality. It can be seen in Table 5.79 that the residuals are not correlated since the Durbin-Watson statistics is equal to nearly two. The other assumption which has to be examined is multicollinearity. According to Table 5.81, Variance Inflation Factor (VIF) scores for each independent variable 1.249 for strategic supplier partnership, 1.069 for level of information sharing, 1.130 for quality of information sharing, 1.499 for user satisfaction, 1.589 for perceived usefulness are lower than 10. Condition index scores for each independent variable in Table 5.82 are near or lower than 30.Therefore, it can be assumed that there is no strong linear relationship among these variables. As a result, it can be said that the assumptions are satisfied for the regression model

Table 5. 82 Collinearity Diagnostics for Model 3

Dimension	Eigenvalue	Condition Index	Variance Proportions					
			(Constant)	ssp	is	qi	us	pu
1	5,909	1,000	0,00	0,00	0,00	0,00	0,00	0,00
2	0,028	14,462	0,01	0,18	0,45	0,01	0,00	0,12
3	0,024	15,597	0,01	0,12	0,07	0,58	0,00	0,10
4	0,023	16,097	0,00	0,58	0,02	0,01	0,10	0,23
5	0,009	25,863	0,01	0,11	0,16	0,18	0,77	0,55
6	0,006	30,240	0,98	0,02	0,30	0,21	0,13	0,00

a. Dependent Variable: op
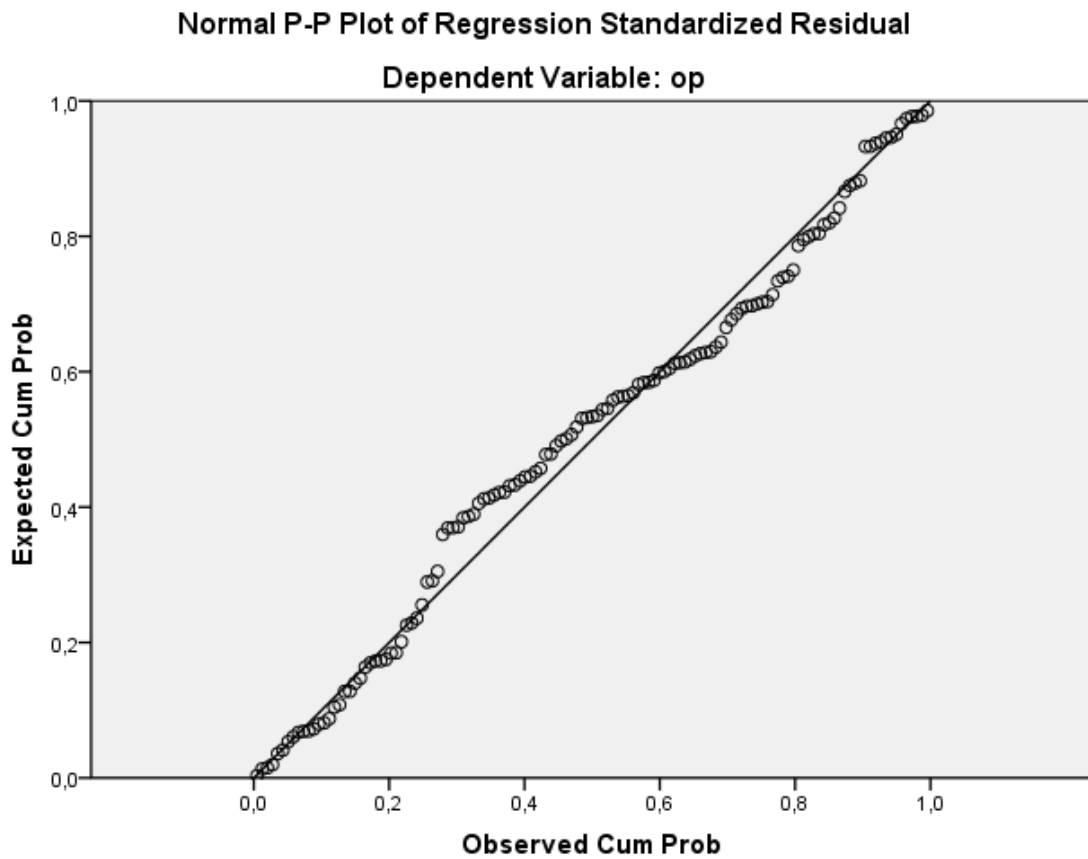
Figure 5. 5 Observed Cum Prob for Model 3

In Figure 5.5, strategic supplier partnership, level of information sharing, quality of information sharing, user satisfaction and perceived usefulness have normal distribution. As seen from Figure 5.6, they do not have non-normal distribution probability.
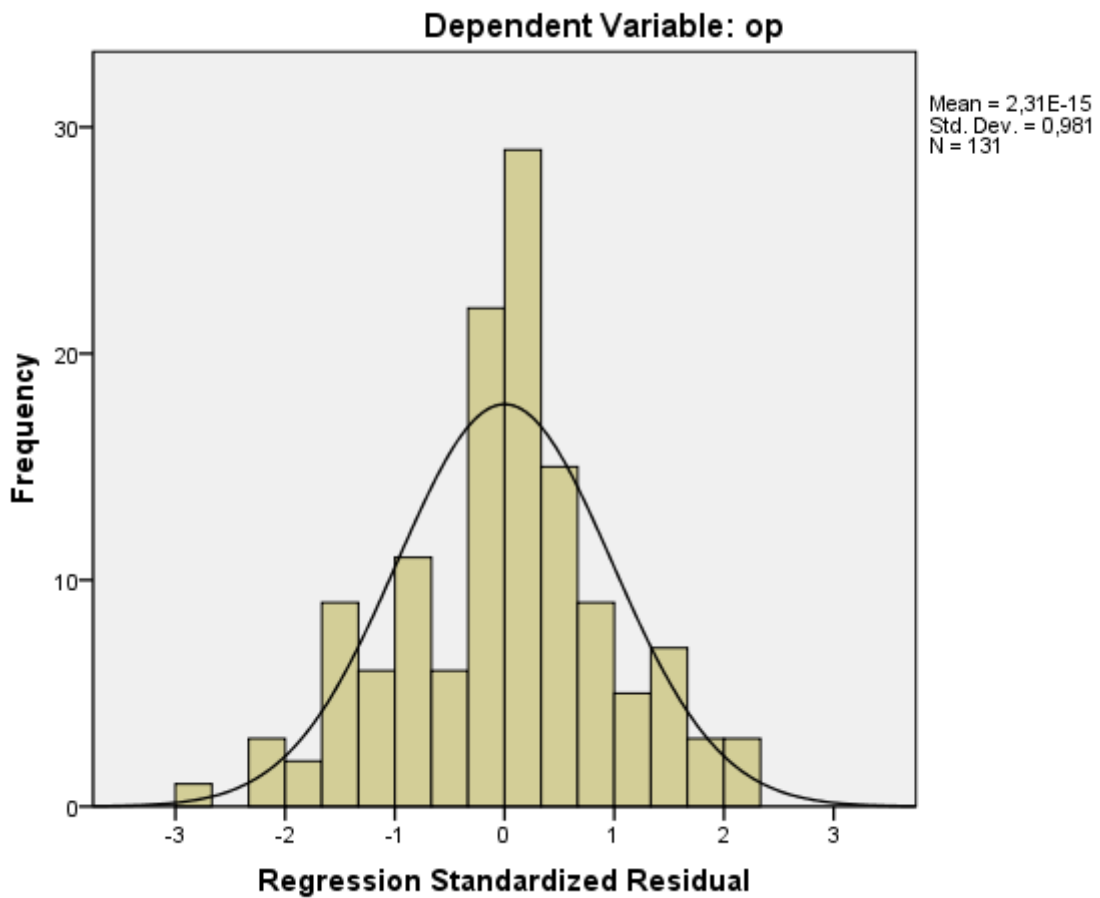
Figure 5. 6 Regression Standardized Residual for Model 3

The average level of upstream SCM practices and e-commerce success factors in e-tailing in Turkey relating to the various dimensions registered a mean scores of 2.8656 (strategic supplier partnership), 3.3855 (level of information sharing), 3.7023 (quality of information sharing), 3.8836 (user satisfaction) and 3.9300 (perceived usefulness) Given the average scores of the five dimensions of upstream SCM practices and e-commerce system success factors, it appears that the score for strategic supplier partnership is lower than other factors. These results suggest the need to have more improvement in the strategic supplier partnership than others, because it has lower mean score.

5.4.4. Model 4 Regression Analysis

Regression analysis is performed between e-commerce system success factors. User satisfaction is dependent variable and service quality, system quality and information quality are independent variable. The main results of the model are given in

Table 5.83. According to Table 5.83, the coefficient of determination R^2 is 0.247 which means that 24.7% of user satisfaction variation is explained by the dimensions. The remaining 75.3% of the variation is identified by other factors not captured in the model. The ANOVA analysis related to the regression model is performed and the results are given in Table 5.84. According to Table 5.84, the significance value of the analysis is 0.00<0.05 which means that the dependent variable can be explained by the independent variables at 95% confidence level. After this examination, the detailed information about the regression analysis which includes the coefficients of independent variables, their test statistics and the collinearity statistics are given in Table 5.85. According to Table 5.85, three independent variables namely; service quality, system quality and information quality are significant at the 95% confidence level. That means these variables are positively significant with user satisfaction. There is no independent variable which is not significant.

Table 5. 83 Model Summary for Model 4

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
0,497[a]	0,247	0,229	0,46228	1,942

a. Predictors: (Constant), iq, sysq, serq
b. Dependent Variable: us

Table 5. 84 ANOVA for Model 4

	Sum of Squares	df	Mean Square	F	Sig.
Regression	8,897	3	2,966	13,877	0,000[a]
Residual	27,140	127	0,214		
Total	36,037	130			

a. Predictors: (Constant), iq, sysq, serq

b. Dependent Variable: us

Table 5. 85 Coefficients for Model 4

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	1,761	0,344		5,120	0,000		
serq	0,227	0,067	0,279	3,374	0,001	0,870	1,150
sysq	0,232	0,062	0,307	3,769	0,000	0,894	1,119
iq	0,119	0,049	0,189	2,419	0,017	0,967	1,035

a. Dependent Variable: us

The assumptions of the regression model related to residuals are examined for the validity of the analysis. According to the plots in Figure 5.7, there is no problem for homoscedasticity and normality. It can be seen in Table 5.83 that the residuals are not correlated since the Durbin-Watson statistics is equal to nearly two. The other assumption which has to be examined is multicollinearity. According to Table 5.85, Variance Inflation Factor (VIF) scores for each independent variable 1.150 for service quality, 1.119 system quality, 1.035 for information quality are lower than 10. Condition index scores for each independent variable in Table 5.86 are lower than 30 .Therefore, it can be assumed that there is no strong linear relationship among these variables. As a result, it can be said that the assumptions are satisfied for the regression model.

Table 5. 86 Collinearity Diagnostics for Model 4

Dimension		Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	serq	sysq	iq
	1	3,918	1,000	0,00	0,00	0,00	0,00
	2	0,051	8,778	0,00	0,17	0,04	0,59
	3	0,021	13,564	0,00	0,51	0,80	0,04
	4	0,01	19,513	1,00	0,32	0,17	0,37

a. Dependent Variable: us
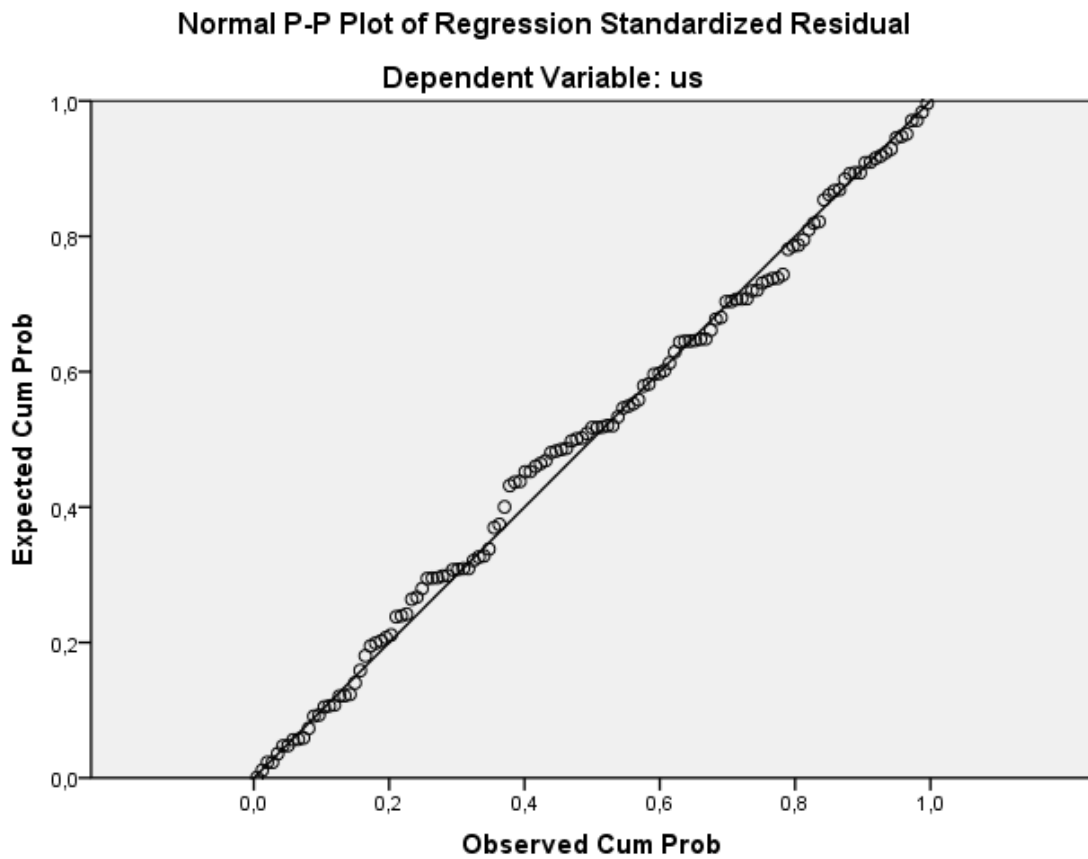
Figure 5. 7 Observed Cum Prob for Model 4

As indicated in Figure 5.7 and Figure 5.8, service quality, system quality and information quality have very well behaving normal distribution. There is no risk of non-normal departures from normality.
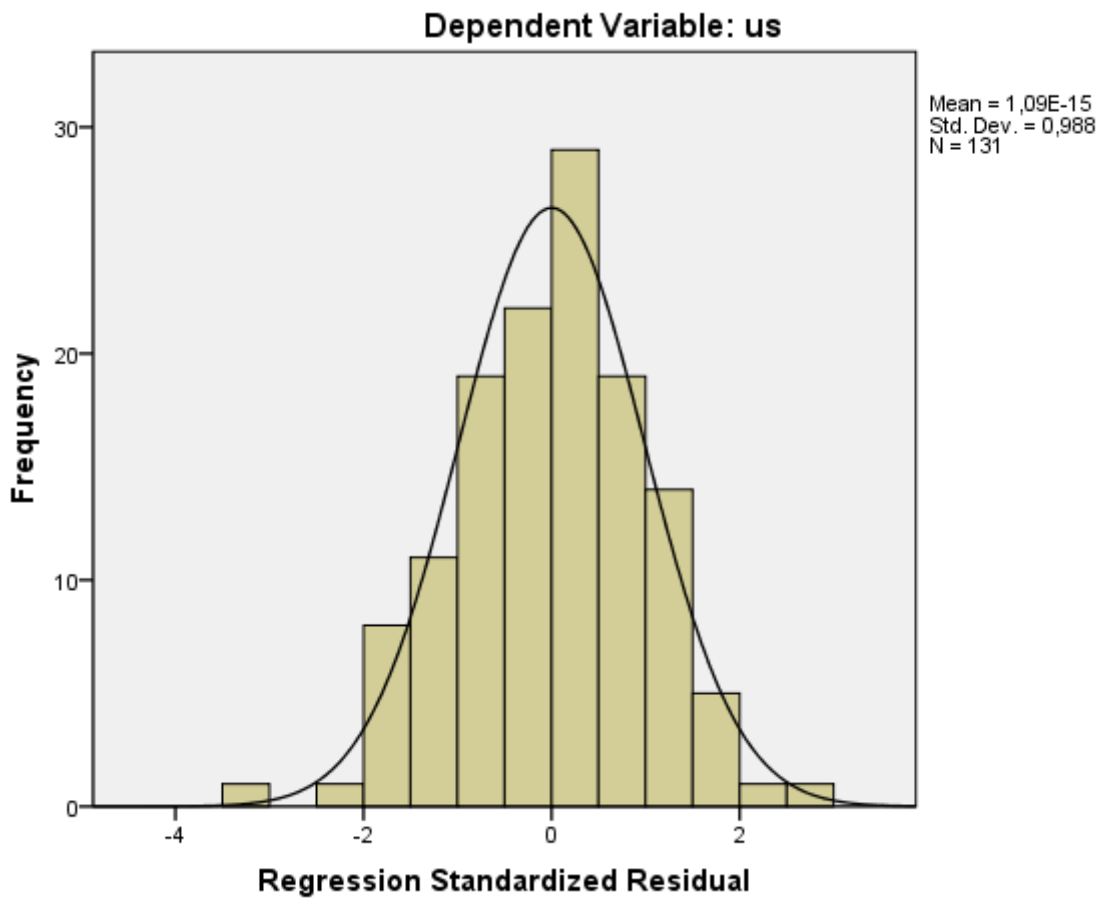
Figure 5. 8 Regression Standardized Residual for Model 4

The average level of commerce system succes factors in e-tailing in Turkey relating to the various dimensions registered a mean scores of 3.3950 (service quality), 3.9008 (system quality) and 3.7405 (information quality). Given the average scores of the three dimensions of commerce system success factors, it appears that the score for service quality is lower than information quality, followed by system quality. These results suggest the need to have more improvement in the service quality than others, because it has lower mean score than others. Also it can be seen that there is the need to have improvement in system quality and information quality sharing.

5.4.5. Model 5 Regression Analysis

Regression analysis is performed between e-commerce system success factors. Perceived usefulness is dependent variable and service quality, system quality and information quality are independent variable. The main results of the model are given in

Table 5.87. According to Table 5.87, the coefficient of determination R^2 is 0.365 which means that 36.5% of perceived usefulness variation is explained by the dimensions. The remaining 63.5% of the variation is identified by other factors not captured in the model. The ANOVA analysis related to the regression model is performed and the results are given in Table 5.88. According to Table 5.88, the significance value of the analysis is 0.00<0.05 which means that the dependent variable can be explained by the independent variables at 95% confidence level. After this examination, the detailed information about the regression analysis which includes the coefficients of independent variables, their test statistics and the collinearity statistics is given in Table 5.89. According to Table 5.89, three independent variables namely; service quality, system quality and information quality are significant at the 95% confidence level. That means these variables are positively significant with perceived usefulness. There is no independent variable which is not significant.

Table 5. 87 Model Summary for Model 5

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
0,604ª	0,365	0,350	0,56348	2,064

a. Predictors: (Constant), iq, sysq, serq
b. Dependent Variable: pu

Table 5. 88 ANOVA for Model 5

	Sum of Squares	df	Mean Square	F	Sig.
Regression	23,174	3	7,725	24,329	0,000ª
Residual	40,324	127	0,318		
Total	63,497	130			

a. Predictors: (Constant), iq, sysq, serq

b. Dependent Variable: pu

Table 5. 89 Coefficients for Model 5

	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	0,665	0,419		1,585	0,115		
serq	0,238	0,082	0,220	2,901	0,004	0,870	1,150
sysq	0,474	0,075	0,472	6,317	0,000	0,894	1,119
iq	0,162	0,060	0,194	2,701	0,008	0,967	1,035

a. Dependent Variable: pu

The assumptions of the regression model related to residuals are examined for the validity of the analysis. According to the plots in Figure 5.9, there is no problem for homoscedasticity and normality. It can be seen in Table 5.87 that the residuals are not correlated since the Durbin-Watson statistics is equal to nearly two. The other assumption which has to be examined is multicollinearity. According to Table 5.89, Variance Inflation Factor (VIF) scores for each independent variable 1.150 for service quality, 1.119 system quality, 1.035 for information quality are lower than 10. Condition index scores for each independent variable in Table 5.90 are lower than 30 .Therefore, it can be assumed that there is no strong linear relationship among these variables. As a result, it can be said that the assumptions are satisfied for the regression model.

Table 5. 90 Collinearity Diagnostics for Model 5

Dimension	Eigenvalue	Condition Index	Variance Proportions			
			(Constant)	serq	sysq	iq
1	3,918	1,000	0,00	0,00	0,00	0,00
2	0,051	8,778	0,00	0,17	0,04	0,59
3	0,021	13,564	0,00	0,51	0,80	0,04
4	0,01	19,513	1,00	0,32	0,17	0,37

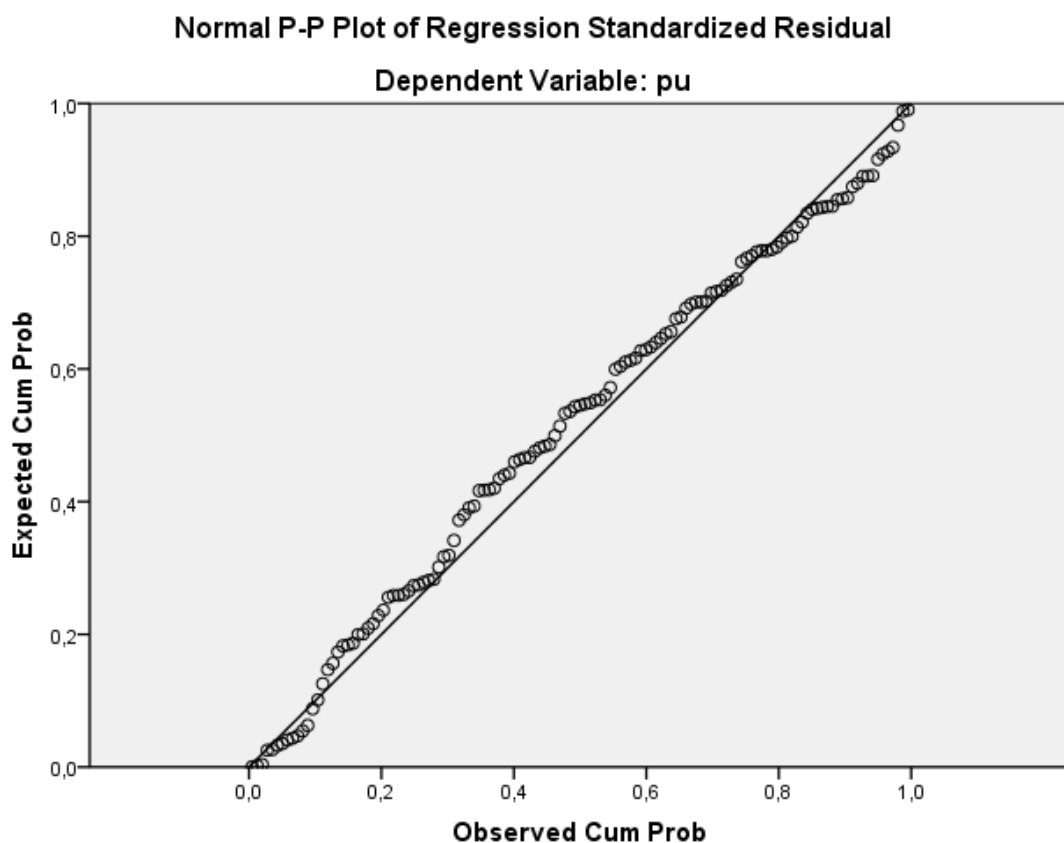a. Dependent Variable: pu

Figure 5. 9 Observed Cum Prob for Model 5

As indicated in Figure 5.9 and Figure 5.10, service quality, system quality and information quality have very well behaving normal distribution with perceived usefulness. There is no risk of non-normal departures from normality.
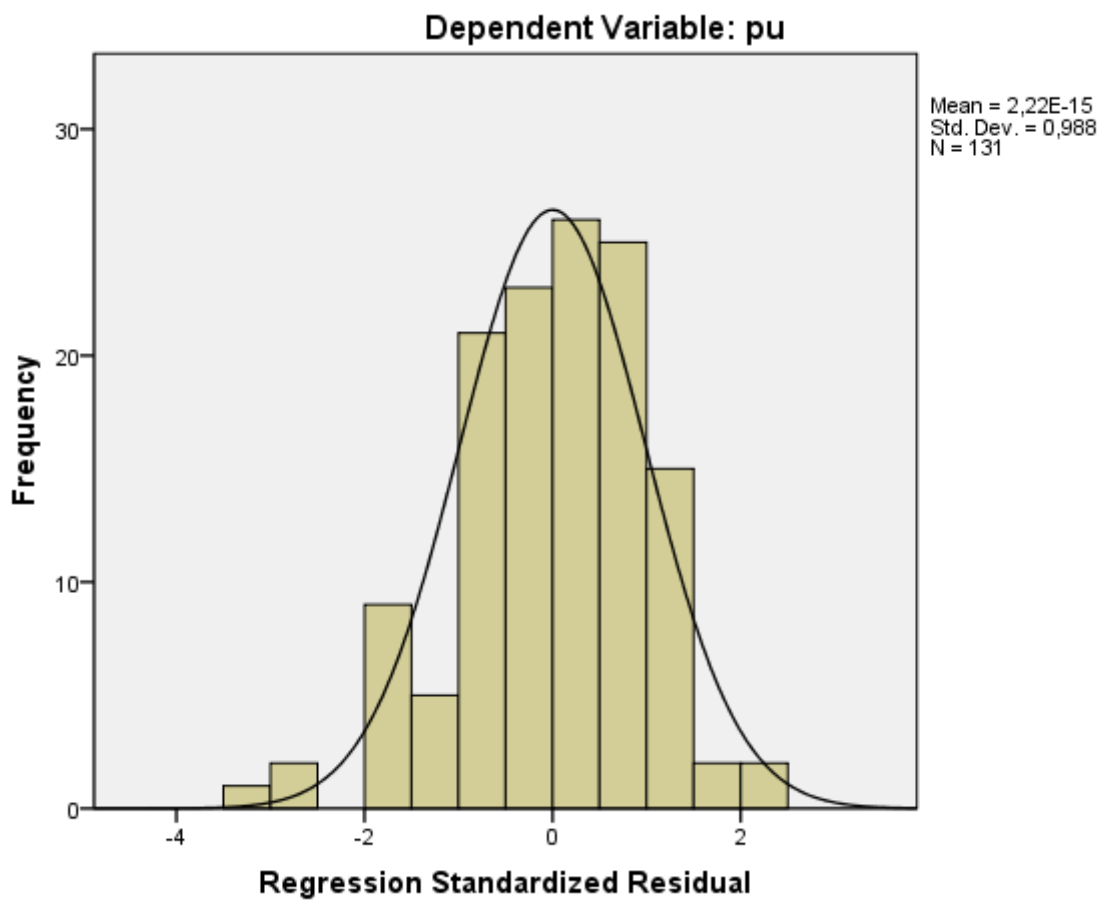
Figure 5. 10 . Regression Standardized Residual for Model 5

6. CONCLUSION AND SUGGESTIONS

6.1. CONCLUSION AND SUGGESTIONS

This study focuses on the issue of upstream supply chain management practices, organizational performance and e-commerce system success factors. It attempts to determine if there is any effect of upstream SCM practices and e-commerce system success factors on organizational performance, providing important information for the understanding of upstream SCM practices and e-commerce system success factors in e-tailing in Turkey. It is quite evident that upstream SCM practices and e-commerce system success factors have significant positive effect on organizational performance. Thus, organizational performance level can be enhanced by improving the upstream SCM practices and e-commerce system success factors. According to the regression analyses, it is evident that the dimensions in upstream SCM practices and e-commerce system success factors namely; strategic supplier partnership, level of information sharing, quality of information sharing, user satisfaction and perceived usefulness are the critical factors in explaining organizational performance. Whatever done to increase strategic supplier partnership, level of information sharing, quality of information sharing, user satisfaction and perceived usefulness will help organization to increase their performance.

This study also shows to determine if there is a relationship between e-commerce system success factors. Regression analysis of model 4 shows that there is a significant relationship between user satisfaction and service quality, system quality and information quality. Service quality, system quality and information quality have significant effect on user satisfaction. Therefore, any increase in these factors will increase the user satisfaction. Regression analysis of model 5 shows that there is a significant relationship between perceived usefulness and service quality, system quality and information quality. Service quality, system quality and information quality have significant effect on perceived usefulness. Therefore, any increase in these factors will increase the perceived usefulness.

In this study e-tailing organization is divided into two category; first category has low sales volume and second category has high sales volume. The impact of these

categories on organizational is researched by creating dummy variable. It is seen that low or high sales volume of the organization have no significant impact on organizational performance.

Overall, the structure of the models has been able to generate the set of possible solutions that provide for the exchange (trade-off) of the two targets analyzed, giving greater visibility to the supply chain in the context of organizational performance. This has enabled, in turn, the possibility of carrying out a comparison of various test scenarios, in general, consistent responses were generated. For example, the models allow a coordinated approach to assess whether or not it is convenient for the customer and the supplier, and even for the system (customer-supplier), according to the desired levels of exchange (trade-off) on the cost and level of information quality in e-tailing.

It has also confirmed that the effectiveness of upstream supply chain management is a very important decision factor in organizational performance, but so is the level of supply chain effectiveness. Due to the multi objective implementation in the proposed models, it has been confirmed that the benefits can only be seen from a simplistic perspective based on information system quality, but the results can be evaluated taking into account the effect of combining different supply chain alternatives in a coordinated context.

In the literature there is equivocal evidence for the direct effect, and unequivocal evidence, although limited, for the indirect effect on the relationship between system quality and organizational performance. In our study we find that the system quality and perception of users does not strike the organizational performance when it is considered a direct effect, but instead hits other indirectly, through excellence in quality or channels. Therefore, the adoption of behaviours strategic marketing leading to obtaining higher levels of quality in electronic personal channels, which becomes a major source of competitive advantage and contributes to one of the main business goals the performance of the vendors. In contrast, our research seems to suggest that the customer focus on the part of an organization, if not accompanied by a proper marketing behaviour is not sufficient for obtaining business results.

Organizations that combine a well-designed e-commerce system and with high levels of upstream SCM achieve high levels of performance. However, organizations that declare high levels of system quality but fail in their internal strategy, it may not achieve

high levels of performance. These organizations recognize the need to be market oriented, but they are unable to impregnate their marketing behaviours with this philosophy.

Managers should consider the deficiencies regarding the quality of service experienced by customers in the electronic channel. These deficiencies can influence the performance of e-tailing firms and in a less favourable assessment of user satisfaction and perceived usefulness.

The conceptualization and development of measures of user satisfaction and online user satisfaction is necessary because it helps to monitor and improve the performance of companies and also to prioritize the development of user satisfaction and usefulness, given certain resources limited organizational and an intensely competitive market. The analysis of the perceptions and expectations of customers in this regard is appropriate. Therefore, the identification of the main dimensions that customers use to judge the quality of service in each channel, and their relative importance, may be a key to the allocation of resources by managers concerned.

The last years of growth compared to previous years, e-commerce market is still small division of Turkey's total trade. Nevertheless this is a small rate when compared to Europe and USA. While the Turkish market is growing rapidly to increase the organizational performance and to be successful, the managers should notice the effect of upstream SCM practices and e-commerce success factors.

6.2. LIMITATIONS

One of the limitations in this study is that the context of respondents is very limited. The study can be expanded to include international e-tailing.

Another limitation of this study is that it focused on only one sector. It can be extended to other sectors.

For the particular case of the model proposed here, it can be concluded that the fact of considering only the process of supply chain and e-commerce system, is itself a limitation. However, including the buyer behaviour models, communication systems, the technology, etc., it would be impossible to cover in this type of research. Thus certain assumptions that could also be considered as limitations are necessary.

In this regard the fact that the models proposed in this thesis do not include inventory costs provider in supply chain side because this study only focused on broader look at organizational performance and system side. However, costs of both supply chain and information systems have vital role on organizational performance. Most significant measure of firm success is cost and profit analysis.

This leads to another set of limitations of supply chain strategy. That happens if the parties do not maintain close cooperation and collaboration. It is important to remember that the models require very specific and confidential information through well designed e-commerce system.

The supply chain strategy is also criticized because it forces the client to be provided only at certain times, it is becoming a limitation because it makes coordination schemes somewhat inflexible.

Finally, the proposed models have the limitation that a larger number of products, periods or additional supply mode, grow the complexity of the problem and the solution procedure may be computationally intractable, because the problems and their complexity grows fast.

6.3. FUTURE RESEARCH

This study is different in literature because it differ from more clearly between researches relating to the quality of system and service of e-tailing and examining them in general within the scope of organizational performance in e-tailing sector. The quality of the website is a facet of electronic service quality. The web page is the contact point in the online business, and therefore, to evaluate the quality of web page interactions should be included. However, the quality of online services is a broader concept, which could be considered both as personal electronic interactions. This study evaluates all e-tailing services in one concept. However, future studies should be focused on single e-retailing concept such as business-to-consumers or consumer-to-consumer.

In this study relationship between e-commerce success factors are researched. But the sub factors that affect these factors are not researched. In future the sub factors of user

satisfaction, perceived usefulness, system quality, service quality and information quality can be researched.

So far the theoretical contributions and empirical implications of this work for business management have been referred. However, it is believed that as important or more to make certain contributions is to open new avenues of research that it is offered, and to provide other researchers the opportunity to develop new work in the area. Therefore, special attention is paid to this section.

Thus, future research could examine the mediating effect in the relationship between organizational performance and e-commerce system from the perspective of other behaviours strategic marketing and tactical marketing behaviours. Linking strategic management behaviours tactical or operational marketing is not common in the literature. For example, one could examine the mediating effect of goal setting theory, which has its starting point of motivation and employee satisfaction in the relationship between organizational performance and performance of e-tailing firms. The scheme goal setting is one of the explanatory causes of e-tailers, as factors such as equity, autonomy, training or role clarity, which should be a great interest for organizations.

Furthermore, research that examines the e-quality remains an emerging phase. Although there have been considerable research efforts, the understanding of the evolution of e-quality is limited. The literature offers different approaches to the definition of e-quality, the most ambiguous part and scarcity of conceptual works, mostly featuring also diverse among themselves without a sound conceptual basis empirical studies. The lack of clear definitions makes it difficult, and on the other hand clear definitions integrate the results of different investigations. For example, often, dimensions coincide with different names, in large part, in definition, and sometimes the same nomenclature hides different concepts. Thus, the conceptualization and measurement of electronic service quality pose a wide range of opportunities / challenges for researchers.

This study also evaluated the impact of supply chain practices directly on organizational performance. It doesn't make an analysis for the impact of supply chain strategies on web-quality. Therefore, future researches should approach this concept as cross; firstly the impact of supply chain strategies on web-quality, then the impact of web-quality on organizational performance.

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APPENDIX

Faaliyet Bilgiler

Kaç yıldır elektronik ticaret (B2C) yapıyorsunuz?	

Elektronik ticaret (B2C) yapan organizasyonunuzda çalışan sayısı		50 den az (x<50)
		50 ile 100 arası (50≤x<100)
		100 ile 500 arası (100≤x<500)
		500 ile 1000 arası (500≤x<1000)
		1000 den fazla (1000≤x)

Elektronik ticaret (B2C) yapan organizasyonunuzun yıllık satışları (milyon TL)		5 den az (x<5)
		5 ile 25 arası (5≤x<25)
		25 ile 50 arası (25≤x<50)
		50 ile 100 arası (50≤x<100)
		100 ile 250 arası (100≤x<250)
		250 den fazla (250≤x)

Elektronik ticaret (B2C) yaptığınız ürün grupları		Elektronik
		Gıda, Yiyecek
		Mobilya dekorasyon
		Giyim
		Kitap müzik film oyun
		Kişisel bakım, kozmetik
		Beyaz eşya
		Koleksiyon sanat
		Kırtasiye
		Altın takı mücevher
		Hobi
		spor
		aksesuar saat gözlük
		Diğer

Her bir ifadeye ne denli katıldığınızı ilgili kutucuğa (X) işareti koyarak belirtiniz. Verilerin doğru toplanması ve yapılacak istatistik analizlerinin anlamlı çıkması açısından hiçbir soruyu boş bırakmamanızı önemle rica ederim.

TEDARİK YÖNLÜ TEDADİK ZİNCİRİ YÖNETİMİ UYGULAMALARI (Bu bölüm elektronik ticaret (B2C) yapan organizasyonunuzun satınalma ile ilgili tedarik zinciri uygulamalarının ölçümü içindir.)	Kesinlikle katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle katılıyorum
Tedarikçi seçiminde bir numaralı kriter olarak kaliteyi düşünürüz.					
Tedarikçilerimizi değişen ihtiyaçlarımız öncesinde bilgilendiririz.					
Tedarikçilerimizle aramızda bilgi alışverişi zamanında yapılır.					
Biz düzenli olarak tedarikçilerimizle problemleri birlikte çözeriz.					
Tedarikçilerimiz özel bilgilerini bizimle paylaşır.					
Tedarikçilerimizle aramızda yaptığımız bilgi alış verişi doğrudur.					
Biz kendi ürün kalitesini artırması için tedarikçilerimize yardımcı oluruz.					
Tedarikçilerimiz işimizi etkileyecek konular hakkında bizi tam olarak bilgilendirir.					
Tedarikçilerimizle aramızda bilgi alışverişi tam olarak yapılır.					
Önemli tedarikçilerimizi içeren sürekli iyileştirme programlarımız vardır.					
Tedarikçilerimiz temel iş süreçleri hakkındaki iş bilgilerini bizimle paylaşır.					
Tedarikçilerimizle aramızda bilgi alışverişi yeterlidir.					
Planlama ve hedef belirleme faaliyetlerimize önemli tedarikçilerimizi dahil ederiz.					

	Kesinlikle katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle katılıyorum
Biz ve tedarikçilerimiz iş planı oluşturmada yardımcı olacak bilgileri birbirimizle değiştiririz.					
Tedarikçilerimizle aramızda bilgi alışverişi güvenilirdir.					
Biz ve tedarikçilerimiz diğer iş ortaklarımızı etkileyebilecek değişiklikler ve olaylar hakkında birbirimizi bilgilendiririz.					

ORGANİZASYONEL PERFORMANS: Organizasyonel performans elektronik ticaret (B2C) yapan bir organizasyonun pazar ve finansal odaklı hedeflerini ne kadar iyi başardığını ifade eder. Aşağıdaki soruların pazar ve finansal hedeflere ulaşmada organizasyonunuz için önemlilik durumuna katılıp katılmadığınıza göre işaretleyiniz.	Kesinlikle katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle katılıyorum
Pazar payı					
Yatırımın geri dönüşü (return on investment)					
Pazar payı büyümesi					
Satışların artması					
Yatırım getirilerinin büyümesi					
Satışlardaki kar marjı					
Genel rekabetçi konum					

ELEKTRONİK TİCARET (B2C) SİSTEM BAŞARI FAKTÖRLERİNİN ÖLÇÜMÜ (Elektronik ticaret (B2C) sisteminizi değerlendirmek için aşağıdaki soruları yanıtlayınız.)	Kesinlikle katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle katılıyorum
Müşterilerimiz online alışveriş sitemizden satınalma yaptıklarında memnun olurlar.					

Online alışveriş sitemizi kullanmak müşterilerimizin alışveriş faaliyetlerinin verimliliğini artırır.					
Müşterilerimiz online alışveriş sitemiz tarafından sağlanan müşteri desteğinden memnunlar.					
Online alışveriş sitemizin kullanımı kolaydır.					
Online alışveriş sitemiz ihtiyaç olan kesin ve tam bilgiyi sağlar.					
Online alışveriş sitemizden satınalma yapan müşterilerimiz tekrar bu siteden alış veriş yapmak isterler.					
Online alışveriş sitemizi kullanmak müşterilerimizin alışveriş faaliyetlerini destekleyen önemli bir role sahiptir.					
Müşterilerimiz online alışveriş sitemiz tarafından sağlanan satış sonrası servislerden memnunlar.					
Diğer sitelere göre, online alışveriş sitemize aşina olmak kolaydır.					
Online alışveriş sitemiz ihtiyaç olan soru ve sorunlara tam yanıt verir.					
Müşterilerimiz ihtiyaçları olması durumunda online alışveriş sitemizi kullanmak isteler					
Online alışveriş sitemizi kulanmak müşterilerimizin satınalma faliyetlerini daha kolaylaştırır.					
Online alışveriş sitemiz müşterilerimizin sorun ve isteklerini anlar.					
Müşterilerimiz sitemizde bir şey yapmak istediklerinde online alışveriş sitemizin kolay olduğunu görürler.					
Online alışveriş sitemiz müşterilerimizin işlerini yapması için yeterli bilgiyi sağlar.					
Online alışveriş sitemizden satınalma yapan müşterilerimiz doğru karar verdiklerini düşünürler.					
Online alışveriş sitemizi kullanmak müşterilerimizin daha hızlı satınalma faaliyetlerini gerçekleştirmeyi sağlar.					
Online alışveriş sitemiz müşterilerimizin isteklerine yeterince hızlı yanıt verir.					
Müşterilerimiz online alışveriş sitemizin kullanımında becerikli olmanın kolay olduğunu ifade ederler.					
Online alışveriş sitemizde müşterilerimiz zorunlu işlemler yaparken hatalar oluşmaz.					
Online alışveriş sitemizi kullanmak müşterilerimizin satınalma faaliyet performansını (ör: para, zaman vs.) artırır.					

Müşterilerimiz online alışveriş sitemizin kullanımının hantal olmadığına inanırlar.					
Müşterilerimiz online alışveriş sitemizin sağladığı bilgilerin doğruluğundan memnunlar.					
Müşterilerimiz satınalma faaliyetleri için online alışveriş sitemizi faydalı bulurlar.					
Online alışveriş sitemizi kullanmak çok zihinsel çaba gerektirmez.					
Çıktı seçenekleri (yazıcı seçenekleri, izin verilen sayfa büyüklükleri vs.) müşterilerimizin kullanımları için yeterlidir.					
Online alışveriş sitemizi kullananlar hayal kırıklığına uğramazlar.					
Müşterilerimizin soru ve sorunları ile ilgili online alışveriş sitemizin sağladığı bilgiler yararlıdır.					

APPENDICE 2: QUESTIONNAIRE FORM IN ENGLISH

Operational Information

How long have you been in e-commerce (B2C)?	

Number of employees within the (B2C) organization		Less than 50 (x<50)
		Between 50 and 100 (50≤x<100)
		Between 100 and 500 (100≤x<500)
		Between 500 and 1000 (500≤x<1000)
		Above 1000 (1000≤x)

Annual sales volume the e-commerce (B2C) organization (million TL)		Less than 5 (x<5)
		Between 5 and 25 (5≤x<25)
		Between 25 and 50 (25≤x<50)
		Between 50 and 100 (50≤x<100)
		Between 100 and 250 (100≤x<250)
		Above 250 (250≤x)

Product categories of e-commerce (B2C)		
	☐	Electronics
	☐	Food and Beverage
	☐	Furniture and Decoration
	☐	Clothing
	☐	Book, music, movie and games
	☐	Personal care, cosmetics
	☐	White goods
	☐	Collections and art
	☐	Stationary
	☐	Gold and jewelry
	☐	Hobby
	☐	Sports
	☐	Accessories, watch, gasses
	☐	Other

Please state how much you agree with eac statement by filling the blank with (X). I advise you not to leave any question empty for reliable data and meaningful statistical analysis.

UPSTREAM SUPPLY CHAIN MANAGEMENT PRACTICES (This part is aimed to measure upstream supply chain management practices of your e-commerce (B2C) organization**)**	I completely disagree	I do not agree	I have no idea	I agree	I completely agree
We consider quality as the primary criterion in supplier selection.					
We inform our suppliers before changes in our needs.					
Information sharing with our suppliers is realized on time.					
We regularly solve problems together with our suppliers.					
Our suppliers share their private information with us.					

	I completely disagree	I do not agree	I have no idea	I agree	I completely agree
Information sharing with our suppliers is correct.					
We help our suppliers to increase the product quality.					
Our suppliers inform us precisely about issues that may affect our business.					
Information sharing with our suppliers is realized without any miss.					
We have continuous improvement programs with our important suppliers.					
Our suppliers share their information related to principle business processes.					
Information sharing with our suppliers is sufficient.					
We enable participation of important suppliers in planning and targeting.					
We exchange information with our suppliers that may help creating a business plan.					
Information sharing with our suppliers is trustable.					
Our suppliers and we inform each other about changes and events that may affect other business partners.					

	I completely disagree	I do not agree	I have no idea	I agree	I completely agree
ORGANIZATIONAL PERFORMANCE: organizational performance states market and financial oriented targets of the e-commerce (B2C) organization and how efficient they achieve. Fill the below questions upon the priority of them for your organization to attain market and financial target.					
Market share					
Return on investment					
Market share growth					
Increase in sales					
Increase in investment returns					

Profit margin on sales					
General competitive position					

E-COMMERCE SYSTEM SUCCES FACTORS (To evaluate your e-commerce (B2C) system success factors, answer the questions below.)	I completely disagree	I do not agree	I have no idea	I agree	I completely agree
Our customers get satisfied when they purchase from our online shopping site.					
Using our online shopping site improves our customers' productivity of shopping activities.					
Our customers are satisfied with customer support services provided on our online shopping site.					
Our online shopping site is easy to use.					
Our online retail site provides the precise information needed.					
Our customers purchased on our online shopping site want to continue their purchasing again.					
Using our online shopping site has a role in supporting shopping activities of our customers.					
Our customers are satisfied with after sales services provided by our online shopping site.					
Compared to other sites, it is easy to become familiarized with our online shopping site.					
Our online shopping site responds to questions and queries that are exactly what needed.					
Our customers want to use our online shopping site when they need					
Using our online shopping site makes it easier to do shopping activities of our customers.					
Online alışveriş sitemiz müşterilerimizin sorun ve isteklerini anlar.					

Our online retail site understands our customers' problems and requests.					
Our online retail site provides sufficient information to enable our customers to do their tasks.					
Our customers are satisfied with their decisions.					
Using our online shopping site enables our customers to accomplish shopping activities more quickly.					
Our online retail site responds to our customers' requests fast enough.					
Our customers find it easy to become skilful at using our online retail site.					
There does not occur errors while our customers do obligatory transaction on our site.					
Using our online shopping site improves our customers' performance (e.g. saving time or money) of shopping activities.					
Our customers believe that our online shopping site is not cumbersome to use.					
Our customers are satisfied with the accuracy of information provided by our online retail site.					
Our customers find our online shopping site useful for their shopping activities.					
To use our online retail site does not require a lot of mental effort.					
The output options (printer-friendly options, page sizes allowed for, etc.) are sufficient for the use of our customers.					
Users of our online shopping do not feel disappointment.					
The information provided by our online retail site is helpful regarding questions or problems of our customers.					

APPENDIX 3: LIST OF COMPANY WEBSITES

http://www.hepsiburada.com/	http://www.dockersturkey.com/	http://incir.incir.com/
http://www.gittigidiyor.com/	http://www.essenso.com.tr/	http://www.tunccadir.com.tr/
http://www.yemeksepeti.com	http://www.cikolatasepeti.com/	http://www.maviboncukceyiz.com/shop/index.php
https://www.markafoni.com/	http://www.tantitoni.com.tr/	http://www.duccan.com/
http://www.kliksa.com/	http://www.civilim.com/	http://www.stskuaformarket.com/
http://www.ciceksepeti.com/	http://www.dagistore.com/	http://www.solarmarketi.com/
http://www.sehirfirsati.com/	http://www.onlinesaatci.com/	http://hobimmarket.com/
https://www.limango.com.tr/	http://www.beraykozmetik.com/	http://www.saatmatik.com/
http://www.morhipo.com/	http://joyfoodz.com/	http://www.floracicek.com/
http://bonnyfood.com/	http://www.nefisgurme.com/	http://www.yeniege.com.tr/
http://www.femole.com/	http://www.lokum.com/	http://www.dogruhediye.com/
http://www.hizlial.com/	http://www.saglikliveguzel.com/	http://www.ceyizsarayi.com/
http://www.webdenal.com/	http://www.adepo.com/	http://www.bebekom.com/
http://www.yakala.co/	http://www.hirdavatmarketim.com/	http://www.maxipaket.com/
http://www.grupanya.com/	http://www.outletim.com/	http://www.nekolaymarket.com/tr/
http://www.gold.com.tr/	http://www.benimhalim.com/	http://www.akdenizkitapcilik.com.tr/
http://www.vatanbilgisayar.com/	http://www.arikanliorganik.com/	http://www.puzmo.com/
http://www.teknosa.com/	http://www.qtoo.com.tr/	http://www.nobetcikirtasiye.com/
http://www.istanbulbilisim.com.tr/	http://www.halistores.com/	http://www.mekikaleti.gen.tr/
http://www.ereyon.com.tr/	http://www.nishev.com/	http://www.cokiyiyaa.com/
http://www.n11.com/	http://www.giydirelim.com/	http://www.sispainternet.com/
http://www.1v1y.com/home	http://www.mamaci.net/	http://www.nazdijital.com/
http://www.lcwaikiki.com/	http://www.hokuspokus.com.tr/	http://www.alisveriset.com/
http://www.trendyol.com/	http://www.hepiyi.com/	http://www.kitapsec.com/
http://www.eczanemizde.com/	http://www.cepmodam.com/	http://www.maureravm.com/
http://www.homebravo.com/	http://www.memlekettengelsin.com/	http://www.alintadin.com/
http://www.koctas.com.tr/	http://www.yenipasaj.com/	http://www.yataganelaletleri.com/
http://www.vimjo.com/	http://www.ticaretpark.com/	http://www.maceramarket.com/
http://www.kitapyurdu.com/	http://www.evligo.com/	http://www.yapireyonum.com/
http://www.unnado.com/	http://www.bukadar.com/	http://www.cazipmarka.com/
http://www.morfare.com/	http://www.mobilyam.net/	http://www.doldurdolabi.com/
http://www.hediyedenizi.com/	http://www.abiyefon.com/	http://www.elore.com.tr/
http://www.tekzen.com.tr/	http://www.marjinalhediyelik.com/	http://www.maxioutlet.com/
http://www.idefix.com	http://shop.servisistanbul.com.tr/	http://www.evdemobilyam.com/
http://www.e-bebek.com/	http://www.nadirhediye.com/	http://www.cicekbayi.com/
http://www.annelutfen.com/	http://biacayip.com/	http://www.giycem.com/
http://www.butikbebe.com/	http://www.buldumbuldum.com/	http://weddingdekor.com/
http://www.evim.net/	https://www.butigo.com/loland	http://www.yuzukhane.com/
http://www.evmanya.com/	http://www.lidyana.com/	http://www.bulalgiy.com/
http://www.mudo.com.tr/	http://ucuzkitapal.com/	http://www.takiyildizi.com/
http://www.sanalpazar.com/	http://www.ucuzcity.com/	http://rulomarket.com/
http://www.homestore.com.tr/	http://www.bursashop.com.tr/	http://www.zekaveakiloyunlari.com/
http://www.buroteknik.com/	http://www.gebzeshop.com/	http://www.ladyfalcon.net/
http://www.saatci.com/	http://www.ilkebebe.com/	

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Gencay İncesu was born in Kars, on November 6, 1974. He received his B.S. degree in Industrial Engineering from Marmara University in 1997. He has completed his Master's degree in Institute of Pure and Applied Sciences from Marmara University in 2010. He has been working as Director of Information Technologies in Park Holding Corporation.

Publications:

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