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EXPLORATION OF TURKISH CONSUMERS' TRUST IN E-COMMERCE

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Abstract

With the rapid penetration of the Internet into people's daily lives, technology forced some companies in many sectors to change their way of doing business, in the meantime, presented some companies the opportunity to utilize it as an alternative and effective way to reach their target market while inviting the consumers to this charming revolutionary process.

Electronic commerce undoubtedly reshaped shopping habits from scratch, bridging consumers who are willing to pay for the needed product or service with the merchants in the cyberspace ready to satisfy the demand in a cost effective and time saving manner. Still, there are some considerations related with the issues such as security, privacy, trust which hinder a part of the population from being a member of this process. Among them, being a multi-dimensional concept, trust could be seemed as the latent cumulus behind the various shopping decisions.

In this study, top websites in Turkey are examined and evaluated in terms of different trust elements suggested by previous research. In the light of the literature review, the most crucial factors are obtained in order to constitute useful guidelines for companies which are in a desire of coming up with the trust blocks and try to achieve great enhancements in building trust with their customers which lead them to increase in sales and to be competitive in the market.

Keywords: E-commerce, trust, online shopping, consumer behavior, security.

Özet

İnternetin bireylerin günlük hayatına hızlı bir şekilde nüfus etmesi ile birlikte, teknoloji çoğu sektördeki işletmeleri iş yapış şekillerini değiştirmeye zorlarken, aynı zamanda işletmelere hedef kitlelerine ulaşmak için alternatif ve etkin bir seçenek sunmuş ve tüketicileri bu merak uyandırıcı yenilik hareketine davet etmiştir.

Elektronik ticaret, siber dünyada tüketicileri ihtiyaç duydukları ürün ya da hizmeti zaman ve maliyet bakımından avantajlı bir şekilde sağlayan işletmelerle buluşturarak şüphesiz ki alışveriş alışkanlıklarını kökten değiştirmiştir. Bununla birlikte, toplumun bir bölümünü bu süreçten uzak tutan güvenlik, gizlilik ve güven gibi bir takım nedenler mevcuttur. Bu etkenlerin içerisinde çok boyutlu bir kavram olan güven, bir çok alışveriş kararının arkasındaki gizli bir bulut kümesi olarak düşünülebilir.

Bu çalışmada, Türkiye'deki en iyi web siteleri, konuyla ilgili yapılmış geçmiş akademik çalışmalar ışığında farklı güven öğeleri bakımından incelenmiştir. Yapılan literatür çalışması doğrultusunda, tüketicilerin e-ticaret işlemlerinde yaşadıkları güven engelini aşarak, satışlarında artış sağlamak ve piyasada rekabet gücü kazanmak isteyen işletmeler için faydalı pratikler sağlayan en kritik güven öğeleri belirlenmiştir.

Anahtar Kelimeler: E-ticaret, güven, online alışveriş, tüketici davranışları, güvenlik.

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To Hatice and Hüseyin Argün

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List of Abbreviations

ATM	Automatic Teller Machine
BBB	Better Business Bureau
BBS	Bulletin Board System
BKM	Bankalar Arası Kart Merkezi
BTS	Business Technology Strategy
B2B	Business to Business
B2B2C	Business to Business to Consumer
B2C	Business to Consumer
B2G	Business to Government
CA	Certification Authority
CDT	Center of Democracy and Technology
CIA	Central Intelligence Agency
CIA	Confidentiality Integrity Availability
CPQ	Consumer Perceived Quality
CSI	Computer Security Institute
CVV	Card Verification Value
C2B	Consumer to Business
C2C	Consumer to Consumer
D&M	Delone and Mclean
EC	Electronic Commerce
EFT	Electronic Fund Transfer
EPIC	Electronic Privacy Information Center
ETID	Elektronik Ticaret İşletmeleri Derneği
EU	European Union
E2E	Exchange to Exchange
FAQs	Frequently Asked Questions
FBI	Federal Bureau of Investigation
FTC	Federal Trade Commission
G2C	Government to Citizens
HP	Hewlett Packard
HTTPS	Hypertext Transfer Protocol over Secure Socket Layer

List of Abbreviations (Continued)

IBM	International Business Machines
ID	Identification
IS	Information System
ISA	Internet Seals of Approval
ISP	Internet Service Provider
IT	Information Technologies
ITU	International Telecommunication Union
NSW	New South Wales
OECD	Organization for Economic Co-operation and Development
PC	Personal Computer
PEOU	Perceived Ease of Use
POS	Point of Sale
PU	Perceived Usefulness
P2P	Peer to Peer
ROC	Rank Order Centroid
SERVQUAL	Service Quality
SET	Secure Electronic Transaction
SSL	Secure Socket Layer
S-HTTP	Secure Hypertext Transfer Protocol
TAM	Technology Acceptance Model
TRA	Theory of Reasoned Action
TTPs	Trusted Third Parties
USD	United States Dollar
UTAUT	Unified Theory of Acceptance and Use of Technology
WTO	World Trade Organization
XIWT	Cross-Industry Working Team
XML	Extensible Markup Language
3D	Three Domain

Chapter 1

Introduction

1.1. Introduction

Rapid growth in online and mobile technologies has provided a significant contribution to the enlargement of e-commerce in recent years. According to Visa Europe statistics, in 2011, 25% of its transactions in the European Union (EU) were made on line (The Organization for Economic Co-operation and Development [OECD], 2012) which is an important indicator for the enhancement of the e-commerce and the transition rate to e-commerce from the traditional commerce. Although there is a picture which demonstrates a growing trend in number of sales, e-commerce still has reached a little part of its potential in many countries. The reasons behind this fact is various and changes with many variable. However, there are definite factors that affect the purchase decision of people in an online environment.

Turkey is currently attracting more attention since its economy is flourishing with the second highest growth after China (CIA, 2012). According to Cengiz, Ayyıldız and Er (2007), banking sector plays a significant role in the world and Turkish economy has a big share in the total financial sector. Throughout the past years, there have been important changes including many technological developments in the sector. Internet banking, online payment services have been developed as an alternative to classical banking system and payment methods. Many websites have entered to the area and most of them have adapted the online payment by credit cards, while a few of them also added other online payment options such as paying by PayPal. Besides, Turkey still suffers from the low online transaction rates, so that it is also among the countries in which e-commerce composes a little part of the whole economy.

Trust factor is one of the most considerable factors, worth to be examined in order to detect the reasons of customer resistance in online transactions and to suggest

solutions and recommendations for the development of e-commerce sector. Many researchers in e-commerce field have commented that the lack of e-commerce trust is the key factor which caused a decline in the number of consumers participating to e-commerce transactions (Tan & Thoen, 2000; Patton & Josang, 2004; Pennanen, 2005; Nefti, Meziane & Kasiran, 2005; Zhang, 2009). Since consumers are not able to experience the item physically, trust factor gains more importance in cyberspace transactions in comparison to traditional transactions.

There are several studies in the literature which investigated dimensions of trust in the online environment. These studies include different kinds of issues such as trust models, consumer behavior models, customer satisfaction, security and privacy issues, and web design elements.

Yet, no research has been done as a wide research about these issues, extracting the most considerable trust elements as a combination of all concluded factors. In this study, the top e-commerce websites in Turkey are examined in terms of trust elements concluded from the literature review and key elements are detected in order to guide e-commerce companies in Turkey to enhance trust of Turkish consumers and hence to help the development of e-commerce in this country.

1.2. Problem Background

Many businesses have started to run their business online either by leaving their physical shops, or by doing their online and physical business at the same time. In the recent years, it turned to be a growing trend to sell their product and services online for many companies in different sectors. On the other hand, the intangibility of the e-commerce environment made many consumers to investigate trustworthiness of this environment and caused them to be concerned about these issues. Although there have been many studies including different types of models developed, several interviews and questionnaires done in order to detect the trustworthiness elements of e-commerce websites in the literature, trust issues related with e-commerce transactions still exist today. Moreover, low online transaction rates despite the advanced payment systems and e-commerce technologies make Turkey an important sample to investigate consumer trust elements.

In this study, it is suggested that previous consumer behavior and trust models, privacy and security related studies, key technologies and web design practices related with trust can contribute to the detection of elements affecting Turkish consumers' trust in e-commerce when the top websites are examined in terms of concluded factors from the literature. Furthermore, the resulting factors may guide to Turkish e-commerce websites in order to build trust with their customers.

1.3. Problem Statement

The main problem which is investigated and tried to be solved in this study is "What are the necessary observable and non-subjective elements for e-commerce websites needed to build trust with consumers in Turkey?"

1.4. Thesis Objectives

The objectives of this thesis are as follow:

1) Study trust and trust related concepts and models.
2) Study e-commerce and e-commerce related concepts.
3) Study trust in e-commerce and models related with trust in e-commerce.
4) Determine the trust elements necessary for an e-commerce website.
5) Out of the concluded trust elements from the literature, to investigate the existence of observable and non-subjective trust elements on the top 30 websites in Turkey.
6) Extraction of the common trust elements on the examined top 30 websites in Turkey.
7) Ranking and evaluation of the 30 websites in terms of trust elements.

1.5. Thesis Scope

- The study only concentrates on trust issues out of many related topics related with e-commerce.
- Out of the findings about trust factors in e-commerce from the literature review, the ones which are clearly observable and then non-subjective will be investigated on the chosen websites.
- The findings about trust factors in e-commerce from the literature review will be only investigated on the chosen websites according to www.alexa.com.

- The resulting findings about the consumer trust factors in e-commerce website may not be enough to build trust with consumers. But they can provide valuable practices and suggestions about trust issues.
- Although in the study, different types of e-commerce were examined and mentioned, the focus is on business to consumer (B2C) e-commerce.

1.6. Importance of the Thesis

Trust concerns of consumers considerably affect e-commerce transactions and hinder most of people from shopping online. Detecting the important factors which lay behind these concerns and concluding suggestions for the trust elements in e-commerce websites will contribute to tackle with these issues by providing some guidelines for implementing trust elements and also will encourage researchers in this area while supporting future studies. Moreover, to supply an evaluation for the top websites in Turkey is valuable since it gives a clearer and more concrete understanding about the trustworthiness of the examined websites.

1.7. Thesis Structure

This thesis consists of mainly 2 parts which are theoretical study and empirical study. Part 1, which is theoretical study, includes the chapters 2, 3 and 4.

In Chapter 2, trust and trust related concepts are defined and the relation between trust and trust related concepts is clarified.

In Chapter 3, the concept of e-commerce, its different types and e-commerce related concepts are defined. Additionally, the advantages which e-commerce bring for companies as well as its limitations for them are discussed. This chapter also answers the questions: What is the current status of e-commerce in Turkey and in the world? What are the necessary things to be done for e-commerce success? Which models can be implemented to succeed in e-commerce?

Chapter 4 gives information about characteristics of online trust and identifies different theories and models related with trust and consumer behavior in the literature. The chapter also answers the following questions: What are the issues

related with privacy and security in e-commerce? Which regulations exist currently related with e-commerce? What are the necessary technologies and the techniques to build trust in e-commerce? What are the necessary web design elements and conditions to enhance trust in e-commerce?

Part 2, which is empirical study, covers the Chapter 5. In this chapter, 30 chosen e-commerce websites are compared and evaluated according to the trust criteria retrieved from the literature review which is done in the previous sections. Trustworthiness ranking of the websites as well as the most important trust attributes for e-commerce websites are also presented in this chapter.

Chapter 6 concludes the study with a summary of the results of the study. It also makes suggestions for enhancing e-commerce trust in Turkey and gives the reader some recommendations for further study.

1.8. Summary of the Chapter

In this chapter, an overview of the study was discussed stressing the importance of the trust factors in e-commerce. The problem was defined and also its background was stated. Moreover, project objectives and scope were identified in order to give a clear understanding about the study. Additionally, thesis structure is given in order to see the content of the study as a whole. It is expected that this project will contribute some knowledge in the field of trust in e-commerce.

Chapter 2

Trust and Related Concepts

2.1. Objective of the Chapter

The objective of the chapter is to define and examine trust and trust related concepts in detail. Additionally, it is aimed to discuss the relation between trust and trust related concepts and to state different trust classifications.

2.2. Definition of Trust in Different Contexts

Trust is a very broad term in the literature and also used in a variety of meaning in daily life. Therefore, its perception by individuals is relative depending on the situation. The definition of the term appears frequently in sociology, psychology and also in the e-commerce context.

In their daily lives, people try to control their social environment. In this process, they gain some insights about the future effects of their behaviors on other people and also the effects of these behaviors on themselves. When rules and customs get insufficient since the social complexity, trust arises. Trust, conventionally evokes the reliance on others by taking the risk of the reverse action into account, depending on the background of the relation between the related participants. The risk level is higher when there is no former interaction was occurred between the participants and declines with the frequency and number of positive experiences in the past. It is a strong feeling and is the corner stone of friendship, family ties, and business connections.

As Mcknight and Chervany (2002) mentioned, trust is a very comprehensive concept, and has been defined in many different ways in a variety of discipline. In accordance with this fact, there is no agreed definition of trust although its significance has been accepted by many researchers so far. For instance, Hosmer (1995) states that “there

appears to be widespread agreement on the importance of trust in human conduct, but unfortunately there also appears to be equally widespread lack of agreement on a suitable definition of the construct" (p.380).

Trust is defined in the Oxford English Dictionary (1971) as, "confidence in or reliance on some quality or attribute of a person or thing, or the truth of a statement" (p.3423).

According to Möllering, Bachmann and Lee (2004), trust concept goes back to the 13th century and its origin of designating faithfulness and loyalty, despite the notion is likely as ancient as the primal genre of humankind. For instance, Confucius (551-479 BC) viewed trust as a prerequisite for the whole useful social relations (Hann, 1968).

Being a multi-disciplinary concept made trust to be a subject of different fields such as psychology, management, marketing, organizational behavior and public relations.

Personality psychologists (e.g. Rotter, 1967) considered trust as a belief, expectancy, or feeling that takes its source from the personality and from the individual's early psychological growth (Rotter, 1967). On the other hand, social psychologists described trust as a prospect about how other people behave in transactions. (Lewicki & Bunker, 1995). Economists also stressed the important role of trust in economic exchanges (Gambetta, 1988; Macauley, 1963) and suggested the detractive effect of it in transaction costs since it prohibits negotiations and contracts which cost high (Dyer, 1996, 1997; Gulati,1995; Sako,1992).

In order to understand the meaning and role of trust in different fields and in different contexts, some different organizational, psychological and sociologic explanations of trust in the literature are given in this study.

In the organizational literature, Mayer, Davis and Schoorman (1995) commented that "trust is the willingness of one party to be vulnerable to the actions of another party

based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (p.712).

Moreover, trust has been defined many times in the psychological and sociologic context. Gefen (2000) defined trust as;

> Trust, in a broad sense, is the confidence a person has in his or her favorable expectations of what other people will do, based, in many cases, on previous interactions. Although another party's (person or persons) previous behavior cannot guaranty that that party will behave as one expects, previous interactions in which that party behaved as expected increase trust that is the belief that the other will behave as one anticipates (p.726).

As a result of an extensive literature review, Giffin (1967) too defined trust as "reliance upon the characteristics of an object, or the occurrence of an event, or the behavior of a person in order to achieve a desired but uncertain objective in a risky situation" (p.105).

Boon and Holmes (1991), social psychologists, say that "trust is a state involving confident positive expectations about another's motives with respect to oneself in situations entailing risk" (p.194).

Zucker (1986) viewed trust as a set of prospects that is subjected to an exchange including social rules and lawfully enabled processes.

McAllister (1995) defines trust as "the extent to which a person is confident in and willing to act on the basis of, the words, actions, and decisions of another" (p.25).

According to Moorman, Deshpande and Zaltman (1993) trust is "a willingness to rely on an exchange partner in whom one has confidence" (p.82).

Putnam (1995) and Misztal (1996) viewed trust as a social capital which coordinates and cooperates people.

In the e-commerce context, trust is defined by researchers as below.

According to Jarvenpaa, Tractinsky, and Vitale (2000), trust is "a governance mechanism in exchange relationships" (p.46).

Lee and Turban (2001) argued trust as

> The willingness of a consumer to be vulnerable to the actions of an internet merchant in an internet shopping transaction, based on the expectation that the internet merchant will behave in certain agreeable ways, irrespective of the ability of the consumer to monitor or control the internet merchant (p.79).

Corritore, Kracher and Wiedenbeck (2003) defined online trust as "an attitude of confident expectation in an online situation of risk that one's vulnerabilities will not be exploited" (p.740).

Kaplan and Nieschwietz (2003) referred to trust as "a consumer's willingness (the trustor) to give Web sites (the trustee) personal and financial information in exchange for goods or services and promises to follow stated policies and procedures" (p.97).

Pavlou and Gefen (2002) stated that trust is -willingness to depend- in online auctions.

From the above definitions, it should be concluded that each description from different discipline and perspective does not substitute each other; rather they are complementary for the whole meaning and functions of trust.

2.3. Definition of Trust Related Concepts and Their Relation with Trust

2.3.1. Trust and Trustworthiness

The concept of trustworthiness is often confused with the consumer trust concept (Serva, Benamati & Fuller, 2005). In contrast to trust, trustworthiness is a feature of a trustee, and is related with the evaluation of the trustee's trustworthiness, that is the trustor can judge if the trustee will be more or less trusted (Mayer et al., 1995; Gefen, Rao & Tractinsky, 2003). It can be inferred that trust is a feature of the trustor, while trustworthiness is a feature of the trustee. Trustworthiness of a site is about the level of the trust of the users to the website according to the elements such as brand name, recognition, prompt production delivery, fraud protection and more (Fogg et al., 2001a; Grabner-Krauter & Kaluscha, 2003). Mostly, a site can get trustworthiness according to its performance in the long term and through word-of-mouth via its users (Yenisey, Ozok & Salvendy, 2005).

Moreover the study of Nielsen, Molich, Snyder, and Farrell (2000) advices some issues to online companies in order to communicate trustworthiness including:

- Easily findable company information
- Pricing with the inclusion of taxes and shipping costs
- Fast in interaction
- Stable information about products
- Professional Web Design furnished by human error messages
- Clear and friendly privacy
- Security and return policies
- Proper request for personal information and clear clarification for the reason of information sought
- Alternative ways of ordering
- Reach to supporting people through email or live chat.

2.3.2. Trust and E-Loyalty

Most e-commerce websites look for attracting new customers rather than retaining them by introducing new strategies and campaigns. This is a big mistake since the success of a company is strongly related to gaining the loyalty of its most profitable existing customers as well as acquiring new customers. Srinivasan, Anderson and Ponnavolu (2002) defined e-loyalty as "a customer's favorable attitude toward the e-retailer that results in repeat buying behavior" (p.42). In order to make customers loyal it is obligatory to gain their trust (Reichheld & Schefter, 2000). That is true for real world commerce. Moreover, the significance of this issue gets higher importance on the Web, where there is no physical interaction between the participants of the shopping process including buyer, seller and item being sold and correspondingly, the risk and uncertainty perception of the shoppers are higher. As Pavlou (2003) mentioned, trust is a very crucial element for e-loyalty. However, the fact that costs for searching and switching to another website do not exist (Bakos, 1997; Chen & Hitt,

2002), the customers in an online environment are less loyal and they are more inclinable to buy from another seller for a better price (Torres & Martin, 2007).

2.3.3. Trust and Online Stickiness

E-loyalty and online stickiness have been similarly used in the literature, but there exists significant differences between them. Davenport (2000) commented that stickiness is the websites' capability to attract new customers and sustain the existing ones. From the above definition of e-loyalty, a significant feature of e-loyalty is customer's repeat purchase. Moreover, Li (2006) defined stickiness basically as "repetitive visits and use of preferred website" (p.106) while Lin (2007) emphasizes stickiness as the customer's desire of revisit the website and lengthening the duration of staying on the website. As stated in this definition, it can be seen that stickiness is related with customer's repetitive visits and the duration of these visits, while repetitive purchase is necessary for customers' loyalty. Previous studies have indicated that trust is so crucial in e-commerce, that it can boost the user's desire to revisit the web site (Suh & Han, 2003) which increases the online stickiness of the customer.

2.3.4. Trust and Online Satisfaction

Another closely related term with trust and e-loyalty is "online satisfaction" which is the positive affect of customer's experience while using online services (Liu & Xu, 2010).

Previous studies suggested that satisfaction affects loyalty. Ranaweera and Prabhu (2003) concluded that customer satisfaction has effect on customer loyalty owing to customer trust.

2.3.5. Trust, Psychological Contracts and Psychological Contract Violation

"Psychological contract violation" term, which has been subjected to many organizational behavior studies, has been also extensively examined in the marketing field. According to Haicheng (2005), psychological contract means "customers' perception and belief of responsibility or liability made by enterprises" (p.37). In the light of this definition, the psychological contract violation is the breach of these implicit promises. When a customer perceives the psychological contract violation, it affects the customer's psychology in terms of customer's trust to vendor. Pavlou and Gefen (2005) concluded that psychological contract violation negatively affects trust and purchase intention in online auctions while it feeds risk perception. They also suggested that psychological contract violation not only affects the transactions with the related seller but also will extend this emotion to other online sellers. There are sources for psychological contract violation according to their study such as not delivering the product purchased, product misrepresentation, not sending the product, delay in product delivery.

2.3.6. Trust and Privacy

When the subject is trust then privacy comes to mind at the first glance for most cases. With the rapid development of technology in recent years, online firms have the opportunity to get and analyze huge size of customers' data from online transactions. The capabilities, which today's technological tools present, provided companies the chance to misuse the sensitive customer information for additional gain (Mai, Menon, Raghunathan, & Sarkar, 2005). In the literature, there are several definitions of privacy. Warren and Brandeis (1890) defined privacy as the justice to be let alone. Privacy can also mean "the claim of individuals, groups, or institutions to determine for themselves when, how, and to what extent information about them is communicated to others" (Westin, 1967, p.83). From a privacy viewpoint, trust is the customer's expectation about the fairness of an online business in treating the customer information justly (Shankar, Urban & Sultan, 2002). In this regard, privacy is a vital factor for online companies to gain customer trust.

2.3.7. Trust and Risk

Another term that is closely related and frequently used with trust is "risk". Risk is defined differently in Information System [IS] and non-IS literature. Risk exists in a condition that the possibility of being harmed may be higher than the advantage provided (Luhmann, 1988). On the other hand, Rousseau, Sitkin, Burt, and Camerer (1998) describe risk as "the perceived probability of loss" (p.395). In the context of consumer trust, Dowling and Staelin (1994) viewed risk as a subjective experience of an indefinite result of the action consumer took. In the literature, there is a common view that trust is solely significant in situations where risk exists. This view is originated from the work by Deutsch (1958) who provided a basis for trust. Yet, different approaches still exists in the literature for their relationship, that is it is ambiguous whether risk is a premise to trust, or risk is a result of trust (Mayer et al., 1995). Still, it can be concluded from the e-commerce literature researches that the risk perception is significant in terms of trust.

2.3.8. Trust and Security

Security, another concept related with trust, is vital for the success of any e-commerce transaction. Exploitation of financial and personal information, attacks to transaction data cause security threats (Cheung & Lee, 2006) and security is the protection against such threats (Belanger, Hiller, & Smith, 2002). ISO 17799 enforces the three basic elements of information security – CIA – which stands for confidentiality, integrity and availability (Kenning, 2001) (see Figure 2.1).

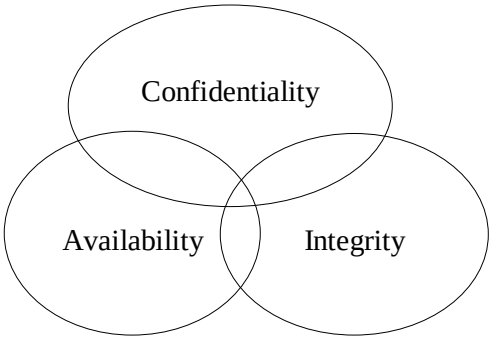

Figure 2.1: CIA Triad

Donn B. Parker also proposed "Parkerian hexad" which is a set of six elements of information security (Parker, 2002).

As its name implies, it has six elements including confidentiality, possession, integrity, authenticity, availability, and utility as seen in Figure 2.2.

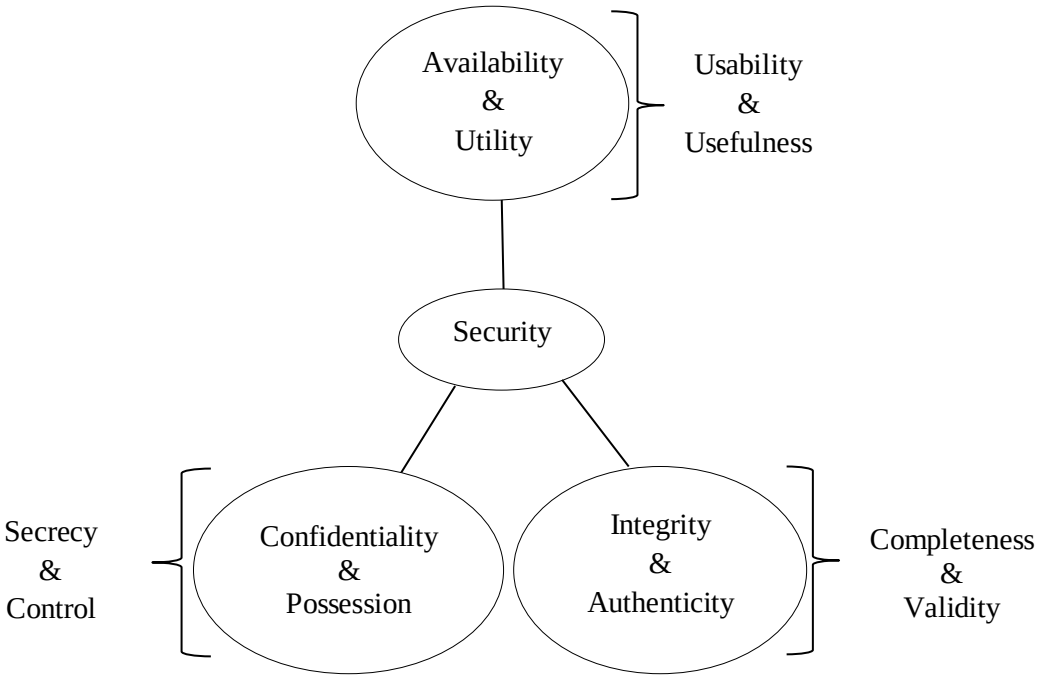

Figure 2.2: Pakerian Hexad (Wu, 2009, p.92)

- Availability: It is related with assuring that there is legitimate access is present to reach information and service that is provided.
- Utility: It refers to usefulness of the data for a purpose.
- Possession: It is related with holding, control and ability to use data. Bosworth, Kabay, and Whyne (2009) define this component as: "A state of having in or taking into one's control or holding at one's disposal; actual physical control of property by one who holds for himself, as distinguished from custody; something owned or controlled" (p.10).
- Confidentiality: This concept is similar to privacy, but they are not the same. It is about sharing the data with people who are authorized to view it and the protection of data from those who are not authorized to view it.

- Integrity: It is one of original components of CIA model. It is described as the ability to protect data against any unauthorized and undesirable change (Andress, 2011).

- Authenticity is a component which Parker added to the CIA model. It is about ensuring that "a message, transaction, or other exchange of information is from the source it claims to be from" (Clemmer, 2010, p.1).

2.3.9. Trust and Premium Pricing

Brynjolfsson and Smith (2000) suggest that consumers are ready to pay a premium price for a product that they trust the retailer of it and they stress that variation in trust to retailer may cause price dispersion in the online market. According to Varian (2002), several loyalty programs can be applied to the online markets in order to increase costs of switching and hence provide retailer to apply premium prices.

2.4. Characteristics of Trust

In the literature there are generally four characteristics defined by researchers including trustor and trustee, vulnerability, produced actions and subjective matter (Wang & Emurian, 2005).

- Trustor and trustee. Two particular parties are necessary for all trusting relationships including a party who is trusting (trustor) and a party which is trusted (trustee). The capability of the trustee to behave according to the best expedience of the trustor and the trust level that the trustor constitutes on the trustee provides the development of trust.

- Vulnerability. Trust entails vulnerability and is just required in an environment in which ambiguity and risk exist. Trustors have to be eager to be vulnerable for trust to be operational while taking the risk of loss into consideration and confiding trustees not to misuse this vulnerability.

- Produced actions. Trust induces actions which generally require behaviors to undertake risk. The way to perform the action changes with the situation and this action may be related with physical things as well as abstract things.

- Subjective matter. Trust is subjective and connected with personal distinctions and stateful factors. Depending on the situation, each individual views the role of trust differently and presents distinct levels of trust towards different trustees.

2.5. Importance of Trust from Individuals' Perspective and Companies' Perspective

At large, trust is a significant element in most of communal and economical interactions in which ambiguity and dependency exist (Hosmer, 1995; Kumar, 1996; Rousseau et al., 1998). It gains higher value when it is necessary to take considerable decisions (Luhmann, 1997). Gefen (1997) also showed trust is an important factor for web users to decide to download software from a website.

Trust with its past dating back to many years ago has been one of the basic elements of social interactions and relationships. It is an important part of affairs, friendships, family ties and a part of many others. As Nissenbaum (2011) commented, "Trust is an extraordinarily rich concept, covering a variety of relationships, conjoining a variety of objects. One can trust (or distrust) persons, institutions, governments, information, deities, physical things, systems, and more" (p.104). Moreover Erikson (1963) stressed the importance of trust in terms of personality trait as being "a central ingredient for the formation of a healthy personality" (p.7).

In the virtual environment, since the uncertainty is higher and there exists less control in comparison with traditional environment, trust is a very important factor for the success in e-commerce platform (Zhong & Shao, 2006) and for keeping longtime relationships with consumers (Reichheld & Schefter, 2000; Gefen, Karahanna, & Straub, 2003). Furthermore, online customers are unable to get the trust cues and signs when they get in face to face interaction with the sellers. Additionally, parties involved into the transaction may be in distinct regions in which an online transaction cannot be depended to the laws of specific country or state (Clarke, 1997). With these considerations, many consumers dither about shopping online and this situation is mostly pointed out as the main reason for the fact that e-commerce has not reached its full potential. It is estimated that more than $15 billion was lost in possible e-

commerce revenues in 2001 because of a deficiency of consumer trust (Meinert, Peterson, Criswell & Crossland, 2006). If online trust can be comprehended and achieved by online merchants, it will raise the number of online users who buy online and will make people more relax about sharing their personal and financial information. It will result in healthier and intensive transactions in which both sides mutually benefit from the deal.

From the companies' perspective, trust is also has a substantial role in business relationships (Dasgupta, 1988; Fukuyama, 1995; Gambetta, 1988; Gulati, 1995; Kumar, Scheer, & Steenkamp, 1995; Moorman, Zaltman, & Deshpande, 1992). Deutsch pointed out the significance of trust factor for the foundation of cooperation and stated that "the initiation of cooperation requires trust whenever the individual, by his choice to cooperate, places his fate partly in the hands of others" (Deutsch, 1962, p.302). Besides, it is so critical in organizational deals where the conventional social layouts depended on authority, give precedence to self-direction and self-control that is it is primary means of social controls and coordination (Miles & Snow, 1992). Additionally, the deficiency of trust lessens all types of cooperative efforts (Cummings & Bromiley, 1996). On the other hand, when the trust level is high, organizations can undertake many types of cooperative efforts while putting transaction costs down. According to Uzzi (1997), trust reduces the cost of intra-organizational and inter-organizational transactions.

2.6. Different Trust Classifications

Trust has been differently categorized in previous researches. These classifications change with the trust object and environment subjected to the research.

2.6.1. Interpersonal Trust, Institutional Trust and Disposition to Trust

McKnight and Chervany (2002) have considered trust comprising interpersonal trust, institutional trust and disposition to trust. According to this typology;

- Interpersonal trust has two components including trusting beliefs and trusting intentions. Trusting beliefs means that one party believes another having one or more characteristics useful for oneself. Other component, trusting intention implies even one party cannot control the other party, this party is eager to

depend on. For instance, in an online shopping website, when a customer involved in a transaction by providing his personal information by accepting general terms and conditions, this could be named as a trusting intention.

- For institutional trust or institution-based trust, it is shown that the trustor trusts the situation or system and it is related with particular person and the organization or system. That is, it is the sociological dimension of the trust. In e-commerce transactions, this system is internet and the trustor is the internet user. The safety and security level of the Internet have an impact on this type of trust and also can affect trusting beliefs and intentions to an online vendor (Keen, Balance, Chan, & Schrump, 2000).

  There are various types of trusting beliefs are present in the literature. The most prevalent types are competence, benevolence, and integrity (Bhattacherjee, 2002; Gefen, 1997; Mayer et al., 1995). These elements also exist in recent literature concerning the trustworthiness of e- commerce as the most relevant dimensions (Table 2.1). Competence means that trustee believes that truster has the ability to do what is agreed (Tan & Sutherland, 2004; Garbarino & Lee, 2003). In the e-commerce context, it can be viewed as the e-vendor has all the products available that exist on their website. Benevolence is about the fact that someone believes that the other party will notice his/her interest (Tan & Sutherland, 2004). For instance, the consumer can suppose that the e-vendor will deliver the products that the customer ordered in the way that customer expects and will be satisfied. Integrity means that someone can believe the other party acts according to ethical considerations. For example, the consumer can believe that the e-vendor doesn't share his/her personal information and credit card information with third parties without his/her consent.

- Disposition to trust related with being tentative to depend on other people in many situations. In contrast to institutional trust, it is generally not situation specific. As Lewicki and Bunker (1995) mentioned, since this type of trust is related with the individual itself, it is more associated with cultural background, personality and experience.

Table 2.1: Dimensions of trustworthiness in e-commerce literature (Pennanen & Paakki, 2007, p.2)

Author(s)	Competence	Benevolence	Integrity	Some Other
Bhattacherjee (2002)	x	x	x	
Garbarino & Lee (2003)	x	x		
Gummerus, Liljander, Pura & van Riel (2004)	x	x	x	
Lee & Turban (2001)	x	x	x	
McKnight, Choudhury & Kacmar (2002)	x	x	x	
Nöteberg, Christiaanse & Wallage (2003)			x	
Roy, Dewit & Aubert (2001)	x	x	x	
Serva, Benamati & Fuller (2005)	x	x	x	
Tan & Sutherland (2004)	x	x	x	x

2.6.2. Macro Level and Micro Level Trust

Trust is also categorized as macro-level and micro-level (Kim & Tadisina, 2007). In the macro-level trust in e-commerce, target is the environment such as legal, technical, social environment. Since this kind of trust enables the threshold for consumers to be included to electronic markets, it is crucial. For the micro-level, the target is each individual e-commerce rather than the environment. Micro-level trust is also considerable as trust of consumers' in an e-commerce entity can conserve the relationship of the customer with the company.

Wang (2008) modeled macro-level trust composed of internet foundation, support systems, legal system, and social cultural environment (Figure 2.3). By Internet

foundation, the hardware and software foundation of the Internet is meant. With the good quality of the foundation there are less information delay and obstruct and also Internet will be safer against information theft or the other security gaps.

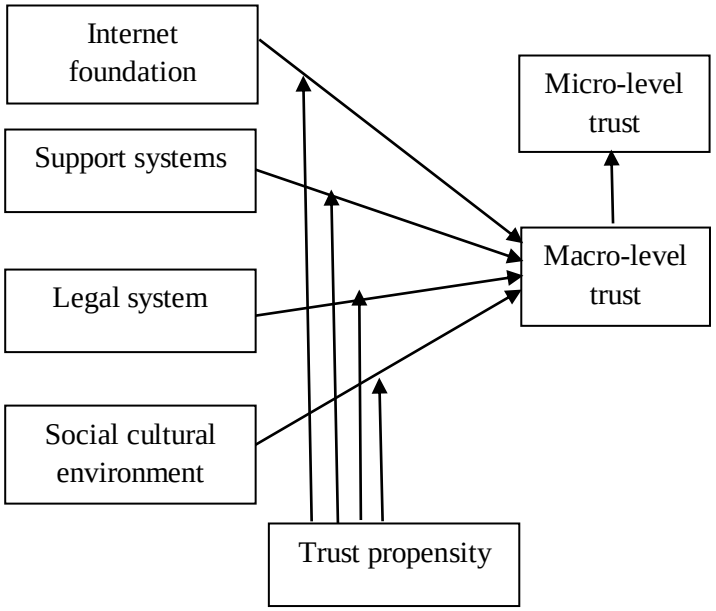

Figure 2.3: A Proposed Model for Chinese Consumers' Macro-level Trust on B2C E-commerce (Wang, 2008, p.377)

Other component, support systems are related with payment systems, logistics, credit evaluation and third part certification system. The presence of the online credit cards and their compatibility to other platforms of banks are important for customer trust. Secondly, logistics is important since the cost and the speed of the delivery of the products is an important consideration for consumer expectations. Moreover, compatibility of credit evolution system to the long-distance transaction of e-commerce is another macro-level trust element. Lastly, third party certification is essential for the persuasion of a consumer about the fact that the vendor will behave ethically.

The other leg of Wang's model, legal systems provide people to believe there is a formal foundation exists for the possible problems that they will live in their e-commerce experience. This factor will improve the trust of consumers toward e-commerce.

The other element of macro-level trust is social cultural environment. This factor is

about the lifestyles of the people. That is; their living, working, consumption, shopping habits are strongly related with their attitude towards e-commerce. In a society which mostly consists of people like face-to-face interaction, used to cash on delivery and do not like buying online, the rate of the online shopping will low and the trust of these people for e-commerce will be very low.

Wang (2008) in his model also added trust propensity influencing the composition of macro-level trust environment. Since this factor is related with each individual's background, personality and developmental experience, it has effect on the entire macro-level environment elements. As Lee and Turban (2001) suggested, the level of the trust propensity will affect the influence of trust attributes on the trust generation process and it will behave like a moderating factor. The customer with a high level of trust propensity will have more possibility to shop online.

Micro-level trust includes personality and process based trust. Their difference lies under the characteristics of trustee and trustor. While process-based trust is related with the features of a trustee or an e-business, the personality-based trust is depended on a trustor's features. Personality-based trust is also known as trust propensity which already mentioned in Wang's model and is a moderating factor. McKnight, Choudhury and Kacmar (2000) suggested process-based trust composing of trusting beliefs and trusting intentions.

Process-based trust depends on the transactions occurred in past, repeated purchases or expected future exchanges, meaning that it is related with gift giving, reputation and brand names. The key element for this type of trust is the good experience in the past shopping experiences (Ganesan, 1994; Gefen, 1997).

2.6.3. Initial Trust and Repeat Trust

In the literature there is also another classification of trust as initial trust and repeat trust. Initial trust of a customer in an online transaction is related with the trust the customer has toward an e-vendor which he/she has no prior interaction experience with before (McKnight et al., 2002). According to Pavlou, it is the degree of trust which starts when the customer first browses the products on online stores and ends when the

customer first buys from that particular store (Pavlou, 2002). In contrast, repeat online trust is related with the trust that consumer experienced in the previous online transactions (Kim, Xu & Koh, 2004).

In online stores, customers make assessments about the e-vendor in the initial part of their contact with the e-vendor. In this stage, the uncertainty and risk perception about the e-vendor is at high levels and customers decide whether they will use this website or buy from there in the future according to these early assessments. Therefore, e-vendors struggle for convincing customers to deal with them by diminishing the risk perception. Taking these issues into consideration, it can be clearly seen that initial trust is crucial for an e-vendor's success for gaining new customers for its virtual store. Moreover, website quality (Kim, Xu & Koh, 2004; McKnight, Choudhury & Kacmar, 2002), information quality of e-vendor's website (McKnight et al., 2002), situational normality of the Web, the structural assurance of the Web (McKnight, Cummings, & Chervany, 1998), and e-vendor reputation (McKnight et al., 2002) are the main factors affecting initial trust of a consumer towards an e-vendor. For repeat trust, website quality which has more effect on initial trust (Kim, Xu & Koh, 2004; McKnight, Choudhury, & Kacmar, 2002), perceived trustworthiness (competence, benevolence, and integrity) of the e-vendor (McKnight et al., 2002) are important factors.

Kim and Tadisina (2005) summarized the factors affecting the initial trust in the light of previous researches in three headings including company profile, supporting organization, and website quality. According to this model, company profile is an important factor impacting initial trust and it is composed of company's size, reputation and history. Additionally, the trustworthiness of supporting organizations according to customers is also shown as a significant element for the initial trust of customers. Examples of these organizations are assurance service organizations or the parent company of a company or any company which has a close connection with the company. The last factor component of the model is website quality which is about the degree of website's efficiency in providing necessary information about the products, making the completion of transactions easy and rapid while also achieving personalization and enjoyment. Figure 2.4 depicts the suggested model.

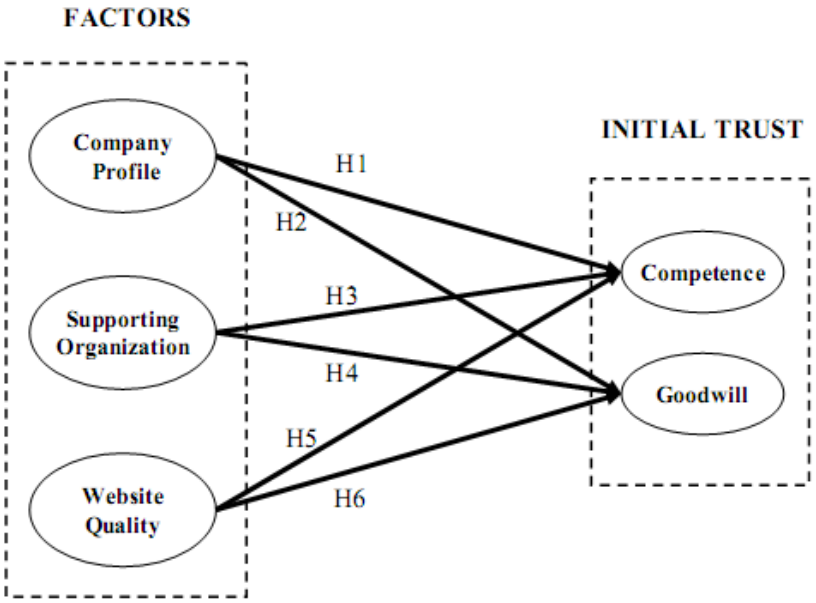

Figure 2.4: Model of initial trust development (Kim & Tadisina, 2005)

In a virtual environment, the development of initial trust is difficult for new customers since the anonymity and information asymmetry exist (Bigley & Pearce, 1998). In order to overcome this asymmetry in online transactions, e-vendors should transmit the necessary signals including information associated with product to the potential customers while improving their initial trust level, decreasing the uncertainty and risk perception and contributing them for the identification and selection of e-vendors (Mayer et al., 1995). Some researchers classified these signals as "intrinsic signals" such as security, website design, and full description of goods, brand choice variety, friendly user interface, good navigation (Montoya-Weiss, Voss, & Grewal, 2003) and "extrinsic signals" such as perceived reputation, brand and country of origin (Yoon, Guffey, & Kijewski, 1993). One of these extrinsic signals, perceived reputation is a critical factor for initial trust and it has a great influence on customers' initial trust if they have not too much experience in their products or service and do not know too much about the their counterparties (Rodgers, Negash, & Suk, 2005). Perceived reputation in online environment has two components including reputation ratings and online customer feedbacks (Casalo, Flavia, & Miguel, 2007). When the reputation ratings of the e-vendors are high, the initial trust of the customer will also be higher. Online customer feedbacks are the commentaries which are done by customers according to their buying and usage experiences of products and also includes the suggestions with the related product (Resnick, Zeckhauser, Friedman, & Kuwabara,

2000). These comments and recommendations contribute less experienced customers in online shopping to find the products which fit best with their needs and so increase their initial trust level.

One of the intrinsic signals, product descriptions exposit the products based on their technical specifications and the performance in terms of technical standards (Lee, Park, & Han, 2008). In online environment, sellers identify the products by texts and pictures (Park, Lee, & Han, 2007). These elements help customers to better perceive the quality and get idea about the specifications of the product and hence can diminish the information asymmetry between customers and e-vendors (Liao, Palvia, & Lin, 2006; Gefen, Karahanna, & Straub, 2003). On the other hand, customers who are inexperienced in online shopping may have difficulty while evaluating the quality of product according to the product descriptions. At this point, intrinsic signals are not sufficient for these customers and they utilize extrinsic signals for the quality assessment. According to Nysveena and Pedersen, the trust of customers who have little experience in online shopping mostly depends on the reputation ratings and the recommendation of other customers (Nysveena & Pedersen, 2004). In contrast to inexperienced customers, experienced customers are able to make comparison and selection of products which have good performance and the selection of online stores which are trustworthy according to product descriptions presented by the sellers (Jøsang, Ismail, & Boyd, 2007).

2.7. Summary of the Chapter

In this chapter, several trust definitions in different fields such as psychology, management, marketing, organizational behavior and public relations have been stated in order to provide different viewpoints to the reader. Additionally, some concepts closely related with trust including trustworthiness, e-loyalty, online stickiness, online satisfaction, psychological contracts, privacy, risk, security, premium pricing have been discussed. The importance of trust for companies and individuals has been underlined, since it is the key factor for many business relationships and personal affairs. Moreover, various classifications of trust including interpersonal trust, institutional trust and disposition to trust; macro and micro level trust; initial trust and repeat trust have been identified by different models and examples suggested from previous research. This chapter contributes the study in the understanding of trust and related concepts and their relationship with each other. In the next chapter, e-commerce and related concepts will be explained.

Chapter 3

E-commerce and Related Concepts

3.1. Objective of the Chapter

The objective of the chapter is to supply definitions about e-commerce, different types of e-commerce and e-commerce related concepts. Also, the advantages of e-commerce for companies and individuals as well as its limitations are aimed to be clarified. To give a general insight about the current status of e-commerce in Turkey and in the world and to investigate the success models related with e-commerce are the further issues which are among the objectives of this chapter.

3.2. Definition of E-commerce

By the 21st century, businesses changed their way of businesses and switched from the primitive type of trading, bartering to virtual trading. Electronic commerce (e-commerce) has a high popularity in the mass media as well as IS research. There have been many definitions made by different scholars. Innovations in e-commerce processes and activities have been launched and implemented rapidly in a short period of time and in parallel to these innovations, definitions changed and evolved based on the existing technology and environment.

The most comprehensive and robust definition was made by Kalakota and Whinston (1997) who viewed e-commerce from four perspectives:

- "From a communications perspective, e-commerce is the delivery of goods, services, information, or payment over computer networks or by any other electronic means." (p.3)
- "From a business process perspective, e-commerce is the application of technology toward the automation of business transactions and workflow." (p.3)
- "From a service perspective, e-commerce is a tool that addresses the desire of

firms, consumers, and management to cut service costs while improving the quality of customer service and increasing the speed of service delivery." (p.3)

- "From an online perspective, e-commerce provides the capability of buying and selling products and information over the Internet and other online services." (p.3)

Turban, King, Lee, and Viehland (2004) added two more perspectives to the list.

- "From a collaborative perspective, e-commerce is the framework of inter- and intra-organizational collaboration" (p.7)
- "From a community perspective, e-commerce provides a gathering place for community members, to learn transact and collaborate." (p.7)

Additionally, Lee and Rahman (2003) added another perspective to the list.

- "Production process perspective, e-commerce converts digital inputs into value-added outputs through a set of intermediaries." (p.17)

Some organizations also supplied definitions for e-commerce.
According to the Organization for Economic Cooperation and Development (OECD), e-commerce was defined as:
"The electronic exchange of information that support and govern commercial activities including organizational management, commercial management, commercial negotiations and contracts, legal and regulatory frameworks, financial settlement arrangements and taxation" (OECD, 1999, p.21)

Similar to OECD definition, the World Trade Organization characterized e-commerce as enabling the organizations to perform exchange and other activities such as sending and receiving e-mail, leisure reading, selling, buying and supplying services (WTO, 1998).

Raymond (2001) defined e-commerce as:
"Functions of information exchange and commercial transaction support that operate on telecommunications networks linking business partners (typically customers and

suppliers)" (p.411).

Turban, Lee, King and Chung (2000) highlighted the usage of computer networks and the Internet as a mean for business processes. Further, Turban et al. (2002) commented e-commerce as "an emerging concept that describes the process of buying, selling or exchanging services and information via computer networks" (p.4).

The Electronic Commerce Team of European Union restricted e-commerce activities to only internet and stated that: "electronic commerce refers specifically to buying and selling products or services over the Internet" (Schulze & Baumgartner, 2001, p.7).

From the definitions of above scholars, we can define e-commerce as the usage of the online environment such as the Internet for many processes and activities including buying and selling transactions, communication, services, automation, collaboration, learning and value adding.

3.3. Definition of E-commerce Related Concepts and Their Relation with E-commerce

Developments in information technologies had huge impacts on daily lives of people as well as on trade and economic life. It brought an electronic version of every concept related with e-commerce like e-marketing, e-government, e-banking, e-economy, e-trade and so on. In most of the study in the field, e-marketing is used as synonym for e-business, e-commerce and internet marketing which is not correct (and is a restriction) due to the fact that all of the terms hold different meanings (Eid & El-Gohary, 2011).

E-commerce and e-business are terms which are used sometimes alternately, but in fact they hold distinct meanings. E-business term was firstly used for a campaign by IBM in 1997 and defined as "a secure, flexible, and integrated approach to delivering differentiated business value by combining the systems and processes that run core business operations with the simplicity and reach made possible by Internet

technology" (Floris, Hooft, & Stegwee, 2001, p.44).

Andam defined e-business as "transformation of an organization's processes to deliver additional customer value through the application of technologies, philosophies and computing paradigm of the new economy" (Andam 2003, p.7).

According to Andam (2003, p.7), e-business includes the processes below: "

- procurement and supply chain management;
- sales and marketing;
- communications, information management, accounts, and human resource management."

From this definition, it can be understood that e-business also includes back end processes and systems and is not only about the exchange of the information online. That is, it involves any activity that a business carries out through a computer network. Additionally, Rodgers, Yen, and Chou (2002) stated that, e-commerce basically concentrates on the customers of the company while e-business enlarges the networking of the company by containing the customers as well as the workers, the vendors, and business associates of the company.

Damanpour (2001), for example, refers e-business as "any 'net' business activity that transforms internal and external relationships in order to create value and exploit market opportunities driven by new rules of the connected economy" (p.18).

Other term that is related with e-commerce, e-government is the form of e-business that includes the processes developed and applied to the public sector. According to the New South Wales (NSW) Audit Office (2001) e-government is "use of the Internet and related technologies to improve public sector performance" (p.2).

Electronic retailing "e-retailing" started to be used in literature as 1995. It is about selling of retail goods using Internet technologies meaning that it is a subset of e-commerce as being B2C transaction model (Sharma, 2009).

Johnson and Whang (2002) divides e-business implementations into three including e-commerce, e-procurement, and e-collaboration (Figure 3.1).

While e-commerce is about to detect and react rapidly to customer demand over the internet, e-procurement furnishes companies the procurement of materials via Internet, and also transportation, warehousing, payment, quality validation, and documentation facilities. Other component, e-collaboration provides the decision making and activity flow for transactions between the supply chain participants including suppliers and customers over the internet.

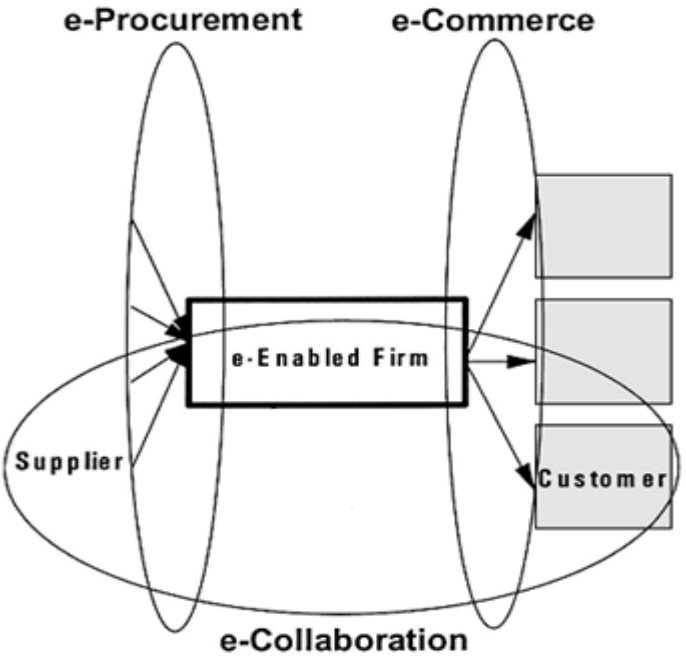

Figure 3.1: E-business forms and their impact on the supply chain
(Johnson and Whang, 2002, p.414)

Another term that is frequently used together with e-commerce is e-marketing. Coviello, Milley, and Marcolin (2001) have identified e-marketing as "using the Internet and other interactive technologies to create and mediate dialogue between the firm and identified customers" (p.26). They further suggested that e-marketing is a subset of e-commerce. According to them, e-marketing concentrates on the management of continual IT- enabled relationships with customers with the creation of dialogue and interactivity. According to Strauss and Frost (2001), electronic marketing is defined as: "The use of electronic data and applications for planning and executing the conception, distribution and pricing of ideas, goods and services to create

exchanges that satisfy individual and organizational objectives" (p.454).

The term "internet marketing" is also misused as e-marketing in many researches. But, e-marketing has a wider extent than internet marketing due to the fact that it includes "Internet marketing, e-mail marketing, intranet marketing, extranet marketing, mobile marketing, telemarketing, electronic data interchange for marketing activities, customer relationship management and more" (Eid & El-Gohary, 2011, p.5). On the other hand, e-commerce and e-business are wider in their scope than e-marketing (Figure 3.2).

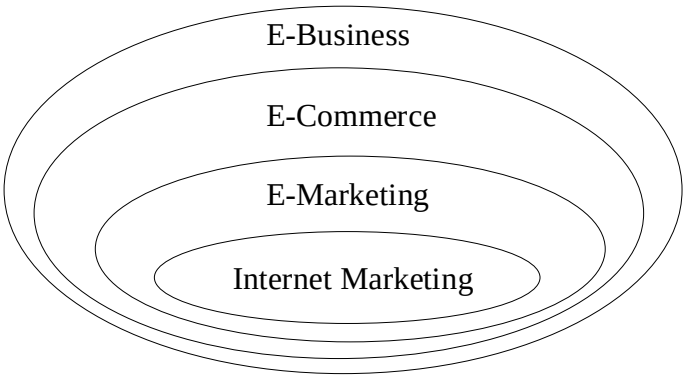

Figure 3.2: Scopes of e-commerce, e-business, e-marketing, Internet marketing (Eid & El-Gohary, 2011, p.5)

3.4. Different Types of E-commerce

Although e-commerce can be examined in several categories according to their functions and scopes, there are four categories exist basically. In this study, B2C e-commerce is primarily concentrated on which is more appropriate for the study objectives.

E-commerce can be divided in four category based on the seller and buyer participants (Table 3.1). These are;

- Business to Business (B2B) Model
- Business to Consumer Model (B2C) Model
- Consumer to Consumer Model (C2C) Model
- Consumer to Business (C2B) Model

Table 3.1: Types of e-commerce (The Economist, 2000, p.9)

	Business	**Consumer**
Business	Business-to-business exchanges. Companies purchasing on the web.	Retail activity on the web: e.g. bookselling (Amazon), stockbroking (Schwab).
Consumer	Consumers bidding for prices and other features of goods and services: e.g. Pricilline, Lastminute, Accompany, Perfect.	Consumers' auctions: e.g. Ebay, QXL

- Business to Business (B2B) Model is about the exchange of products and services between different businesses. Approximately 80% of e-commerce is B2B type, and according to the specialists, B2B e-commerce will proceed growing more rapidly than the B2C ecommerce (Andam, 2003). Behl (2009) comments that:

  > Common B2B examples are IBM, Hewlett Packard (HP), Cisco and Dell. For instance, Cisco receives over 90% of its product orders over the Internet. Most common B2B applications are in the areas of supply chain management, inventory management, distribution management, channel management, and online payment management (p. 276).

- Business to Consumer (B2C) Model is the most well-known e-commerce type that occurs between companies and customers in a form involving information collection, buying tangible goods such as books or clothes or information goods such as software, e-books and getting the products electronically for information goods. It is the second largest and the oldest kind of e-commerce and it was originated from e-tailing (Andam, 2003). Some examples are Amazon.com, Dell.com, Drugstore.com and Hepsiburada.com. This study mainly focuses on this e-commerce model.

- Consumer to Consumer (C2C) Model is the form of e-commerce that is realized between individual consumers. This type is mainly known by online

auctions where consumers can bid for the item being sold among multiple suppliers.

Although it has a great potential for the development of new markets, it has been underdeveloped in many countries because of trust concerns. C2C is also often referred to as Peer to Peer (P2P).

- Consumer to Business (C2B) Model is the type of e-commerce in which consumers can connect with each other and introduce themselves as a buyer group in the relationship with the business (Rayport & Jowarski, 2002). An example of it is SpeakOut.com.

Turban and King (2003) defined e-commerce implementations in short as follow:

- Government to Citizens (E-government) (G2C): In this category, government supplies goods, services or information for businesses or individuals.

- Mobile Commerce (M-commerce): The transactions and activities actualize in a wireless environment frequently by using mobile phones. This e-commerce type is very popular today among business people.

- Intrabusiness (Organizational) Commerce: This type of e-commerce involves the flow of goods, services or information among the people and different parts of organization by usually via intranets or corporate portals. Organization can sell its products or services to employees, or may provide online training opportunities for them.

- Exchange to Exchange (E2E) Commerce: This type of e-commerce depicts a public electronic market with buyers and sellers connecting one another for exchanges.

- Business to Business to Consumer (B2B2C) Commerce: In this category, companies generally implement supply chain management in their processes. A company example for this type is Wal-Mart who buy product from

manufacturers in big masses and sell the product at cheaper price to its customers.

There is also Business to Government (B2G) Model which refers to "the use of the Internet for public procurement, licensing procedures, and other government-related operations" (Khurana, 2011, p.457). This e-commerce type seems not reaching its potential enough in Turkey and in the world in comparison with the other types.

In spite of the fact that B2B e-commerce is the largest category by far, the other two forms which focus on customer, B2C and C2C have been growing fast in recent years since spread of Internet usage by broadband access (see Figure 3.3 for the OECD broadband subscribers). Mobile commerce also has developed, proving a new platform for commercial transactions.

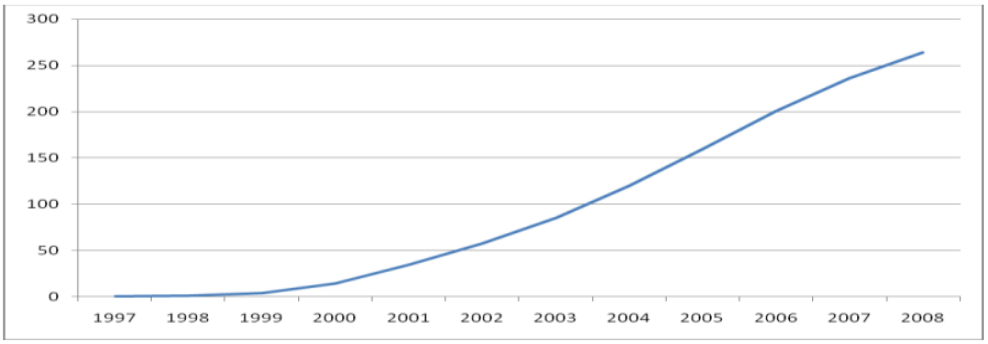

Figure 3.3: OECD broadband subscribers in million between 1997 and 2008 (OECD Communications Outlook, 2009)

A recent online shopping concept which is "private shopping" which is also called as "exclusive shopping" is also so popular in Turkey today as in many countries. This shopping is a type of B2C e-commerce. Baybars and Ustundagli (2011) define the concept as the following way:

"It is really like a closed loop at which only member individuals can take the advantage of deep discounts and high-end brands. Membership is free but users have to be invited by another member or are waitlisted to be accredited members" (p.202). As Markafoni, Limango and Trendyol are the pioneers in this category, there are a number of private shopping sites have emerged recently in Turkey.

Although Franke and Schreier (2008) stressed that people are eager to pay more money if they purchase a unique item, the discounted prices offered by these websites generate extra attention and make them an appealing choice for people by enabling uniqueness and cheap prices at the same time.

Another recent online shopping concept, gaining more popularity day by day is "group buying". According to Erdoğmuş and Çiçek (2011) "online buying group is a system that provides daily discounts for various services and products, is a new form of marketing at the junction of promotion and pricing that had attracted the attention of both practitioners and academia" (p.309). The first group buying website is Sehirfirsati.com which is Groupon company participation started operating on April 2010 in Turkey (Internet Archive, 2012). According to MILLIYET Daily Newspaper, just in 5 months, the number of site members exceeded 1 million. There have been also many other group buying websites have been emerged in Turkey after Sehirfirsati.com such as Grupfoni.com, Yakala.co, Grupca.com, Grupanya.com, Markapon.com and so on.

3.5. Why E-commerce is important for companies and individuals?

With the rapid enhancement of computerization, e-commerce has developed all around the world and contributed to the growth of economic globalization. Global diffusion of the internet and e-commerce tied countries into a universal economy (Gibbs & Kraemer, 2004).

According to the Levis (1996), e-commerce contributes to economic efficiency in five ways as described below:

- Shortens distances and solves the time limitation problem.
- Lessens distribution and transaction costs.
- Accelerates product development.
- Supplies information to buyers and sellers.
- Broadens customer choice and supplier reach.

E-commerce provides many advantages to the companies and individuals which can be summarized as below:

- By e-commerce, cost of operational and inventory costs reduces (Gunasekaran, Patel, & Tirtiroglu, 2001), since business processes are automated by web technologies which fasten and optimize ordering, payment and shipping procedures. According to Malone, Yates, and Benjamin (1989) digital information and communication networks increase the speed and decrease the cost of transmitting the same information unit.
- Companies can launch novel products and services for existent and potential customers (Walters & Lancaster, 1999).
- It encourages one to one marketing by its customization options. (Wehling, 1996).
- E-commerce enables businesses to reach global market areas which otherwise difficult for them to reach (Pallab, 1996) while minimizing capital, equipment, space, or staff (XIWT, 1999).
- It presents companies the opportunity to market their products all around the world without physical interaction with customers or advertisement activities in the other regions of the world (Karakaya & Karakaya, 1998; Tiessen, Wright, & Turner, 2001).
- It allows self-selectivity referring that only people that is really interested in your organization or product will visit your website (Wehling, 1996).
- It provides organizations to collect information of its current and potential customers and by analysis of the gathered information customization will be achieved. It is an inexpensive way of making market research (Pallab, 1996).
- Sellers can penetrate to narrow market segments which are largely distributed. On the other side, buyers can get benefit by the access of global markets with wider product availability from different sellers at decreased costs (Napier, Judd, Rivers, & Wagner, 2000).
- Products have better quality and there are new ways of selling the products (Chaudhury & Kuilboer, 2002).
- E-commerce enables digitization and customization for both seller and customer and provides sellers to make differentiation for their offering and to

improve the relationship between customers and sellers which results in better customer retention and loyalty (Barua, Konana, & Whinston, 2004).

- Organizations can make reengineering on their business processes and achieve disintermediation by directly contacting with their customers. It results in better customer loyalty and retention (Molla & Heeks, 2007).

However, the potential effects of e-commerce change with the socio-economic development level of the country (Van Slyke, France, & Varadharajen, 2005).

3.6. E-commerce Limitations

Although e-commerce is growing exponentially day by day, it also has some limitations as other existing technologies. Turban and King (2003) pointed out there are many limitations of e-commerce exist today as seen in Table 3.2. The topic of this study, which is e-commerce trust, was also indicated as one of the non-technological limitations in the study of Turban and King. Zhong and Shao (2006) also support this idea since there is a high uncertainty and less control exist in e-commerce platform in comparison to the traditional environment.

Table 3.2: Highlighted limitations of e-commerce (Turban & King, 2003, p.26)

Technological Limitation	Non-technological Limitations
Lack of universal standards for quality, security, and reliability.	Security and privacy concerns deter customers from buying.
The telecommunications bandwidth is insufficient, especially for m-commerce.	Lack of trust in EC and in unknown sellers hinders buying.
Software development tools are still evolving	People do not yet sufficiently trust paperless, faceless transactions.
It is difficult to integrate Internet and EC software with some existing (especially legacy) applications and databases.	Many legal and public policy issues, including taxation, have not yet been resolved or are not clear.
Special Web servers are needed in addition to the network servers, which add to the cost of EC.	National and international government regulations sometimes get in the way.
Internet accessibility is still expensive and/or inconvenient.	It is difficult to measure some of the benefits of EC, such as online advertising. Mature measurement methodologies are not yet available.
Order fulfillment of large-scale B2C requires special automated warehouses.	Some customers like to feel and touch products. Also, customers are resistant to the change from shopping at a brick-and-mortar store to a virtual store.
	People do not yet sufficiently trust paperless, faceless transactions.
	In many cases, the number of sellers and buyers that are needed for profitable EC operations is insufficient.
	Online fraud is increasing.
	It is difficult to obtain venture capital due to the failure of many dot-coms.

Laundon and Traver (2007) also highlighted some limitations for the growth of B2C e-commerce as shown in Table 3.3.

Table 3.3: Limitations on the growth of B2C e-commerce
(Laudon & Traver, 2007, p.65)

LIMITING FACTOR	COMMENT
Expensive technology	Using the Internet requires a $4000 PC (minimal) and a connect charge ranging from about $10 to $60 depending on the speed of service
Sophisticated skill set	The skill required to make effective use of the Internet and e-commerce capabilities are far more sophisticated than, say, for television or newspaper.
Persistent cultural attraction of physical markets and traditional shopping experience	For many, shopping is a cultural and social event where people meet directly with merchants and other consumers. This social experience has not yet been fully duplicated in digital form (although social shopping is a major new development).
Persistent global inequity limiting access to telephones and personal computers	Much of the world's population does not have telephone service, PCs, or cell phones.
Saturation and ceiling effects	Growth in the Internet population slows as its approaches the size of the at risk population.

3.7. E-commerce Quality and Success Metrics

E-commerce provides advantages for companies since it cuts the costs, provides direct and one-to-one contact with more customers and customization options, saves their time and makes them more competitive in their field. For e-commerce companies, in order to have a sustainable success, it is necessary for them to make customers visit their websites, buy their products and provide them to become repeat customers.

Besides, there is no obstacle for a customer to switch and prefer another website, if the experienced website is under its expected performance (Bhatti, Bouch, & Kuchinsky, 2000).

Taking these issues into consideration, e-commerce activities make companies more dependable to Web technologies and this dependency brings the necessity to determine and analyze the factors related with website success. There have been many studies about the variables in e-commerce success. Most of them concentrated on establishing a secure environment for online transactions on the Web (Kirsner, 1998; Messmer, 1995). But, apart from security, there are also other important factors which affect the success degree of e-commerce transactions.

Quality is so critical for businesses especially in e-commerce (Zhu & Kraemer, 2002) and it has been a valuable indicator for the success in this field (Liu & Arnett, 2000; Barnes & Vidgen, 2002). Companies have to reach a high level of quality for their e-commerce website in order to gain customer attention and loyalty. In traditional commerce, a business can prove its quality to customers by physical cues such as the ones that are transferred via communication, by customers' physical interaction with the product or service or via location characteristics. In e-commerce, since businesses have no direct interaction with customer, they have to transfer the quality in different ways in an electronic medium. According to Schlosser, White, and Lloyd (2006) "marketers often use observable signals (e.g., price, warranties, advertising expenditures) to communicate the level of some unobservable quality" (p.135).

Grönroos (1984) first used the term "consumer perceived quality (CPQ)" and it was redefined by Su, Li, Song, and Chen (2008) as the acceptance or denial of what consumer expects from service versus what the consumer actually received. According to Su et al. (2008), "some authors focus on aspects of web design, whereas others measure quality issues along the entire online shopping process – including information searching, online ordering, delivery and payment, and after-sales service" (p.362). Su et al. (2008) also pointed out the role of controllability, ease of use, information quality are critical for the quality of e-commerce. She also stated that the previously importance of web presence and low prices at the beginning times of e-

commerce do not assure success today (Su et al., 2008). Therefore, they should concentrate on delivering product and services efficiently, providing goods' quality, giving pre and after sales service while trying to enhance more secure transactions and ensuring customer privacy.

Some researchers have examined quality specifications in e-commerce in three category including, system quality, information quality and service quality (Behkamal, Akbari, & Kahani, 2006; Cheung & Lee, 2005; DeLone & McLean, 2004). System quality is mainly related with the business activities which are occurred between customers. Information quality, as its name implies, is related with the information provided by internet commerce. Furthermore, service quality focuses on the two-way communication and delivery topics. All of these aspects are crucial for the success of online businesses on the internet since they have a great effect on customer behavior.

As a broader concept, information system success is the degree which a system meets its design objectives (Farhoomand & Drury, 1996). In the measurement and evaluation of IS success, the dimensions suggested by the model Delone and Mclean (1992, 2003) grasped the most attention. According to their model, IS success is composed of six dimensions including systems quality, information quality, user satisfaction, use, organizational impact and individual impact (Figure 3.4). Besides, the elements of this model contain solely system aspect of IS success and do not take the human interaction aspect into consideration (Li, 1997). The lack of this element was resolved by adding service quality elements while updating the model of Delone and Mclean in parallel with the changes in role and management of information systems (Figure 3.5).

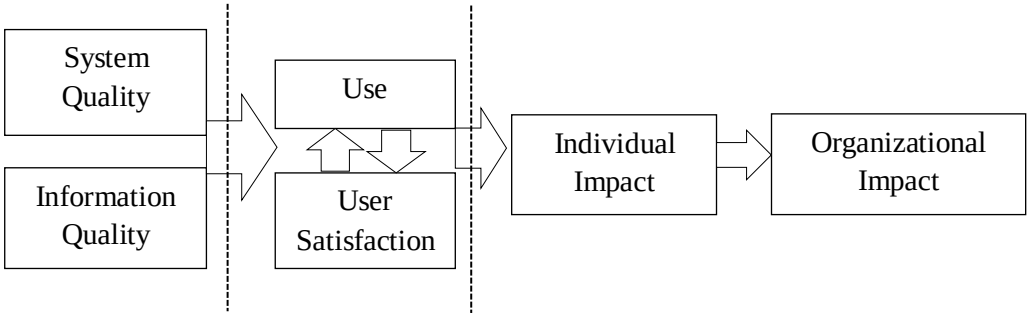

Figure 3.4: D&M IS Success Model (Delone & Mclean, 1992, p.87)

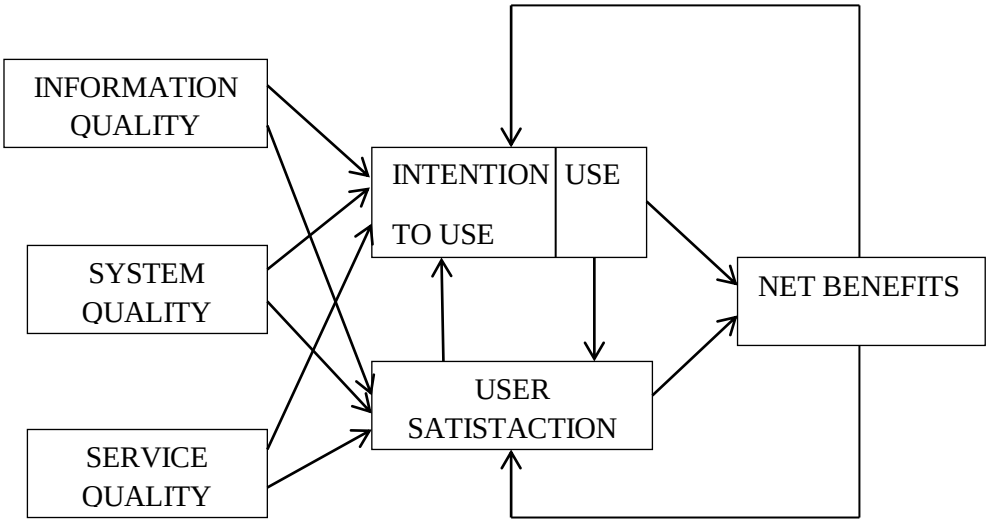

Figure 3.5: Updated D&M IS Success Model (Delone & Mclean, 2003, p.24)

The updated D&M IS Success Model was also adapted to measure e-commerce success by Delone and Mclean (2003).

According to their model, the elements of e-commerce success are as below.

- System quality is associated with what is desired from an e-commerce system. The system must provide accurate information in the necessary time in the necessary place. Adaptability, reliability, usability, availability and responsiveness (e.g., load time, search time, download time) are examples of what users expect from an e-commerce system. In a survey of European Electronic Messaging Association, more than 79 percent of attendees showed reliability as the top element which e-commerce customers worry about (Shankar, 1996). Furthermore, since internet technologies have been evolved in recent years, online firms have a little apology for possible delays in their response to customers (Wan, 2000). Weinberg (2000) states that if the load time longs much more than the amount of time that web user is eager to wait, then he/she will switch to another website or quit the internet.
- Information quality is related with the quality level of the content of e-commerce system. Barnes and Vidgen (2002) stated that providing all the necessary content to the customers in Internet environment is very substantial to make customers aware of the fact the content is in parallel with their needs

and wants. The content of the website should be with personalization features, relevant, easily understandable and secure in order to provide customers to return the website.

- Service quality is related with all the support that is provided by the service provider. This service provider could be IS department, a new organizational unit or an Internet service provider (ISP). It is a critical quality factor since its success is related with the customer satisfaction in return of user support and poor support can result in losses in terms of customers and sales.
- Usage covers all the activities that are realized during the visit of the website including navigation between the different pages of the website, information retrieval process and transaction execution.
- User satisfaction is a valuable means of evaluating customers' opinions about the issued e-commerce system. It should contain the whole customer experience cycle beginning with acquisition of the information through purchase, payment, receipt, and service.
- Net benefits are the most crucial factors to measure success, since they hold the balance of both good and bad effects of the e-commerce system on customers and other shareholders. Net benefit measures are determined based on objectives for e-commerce initiative. Examples of these are the amount of time and money that internet shopping caused consumers to save, the net benefits an organization gained by supply chain efficiencies and customer responsiveness.

One of the defined aspects in the above, service quality is known as SERVQUAL traditionally (Parasuraman, Zeithaml, & Berry, 1988). Service quality is used in e-commerce to examine the effectiveness of the delivered support online by the web site. That is, it is defined as how well the delivered support meets what the customer expects (Parasuraman et al., 1988). It is a key aspect in e-commerce where customer service is critical for success (DeLone & McLean, 2003). According to Pitt, Watson, and Kavan (1995) service quality is important to assess the service quality of the IS and the measurement of the quality will not be accurate when the focus is only on products and this element is not included. Furthermore, in many researches the

necessity to include service quality factors in IS success evaluation has been agreed (Kettinger & Lee, 1995; Li, 1997; Delone & McLean, 2003).

Parasuraman, Berry, and Zeithaml (1985) defined service quality consisting of ten elements which are summarized in five headings including reliability, responsiveness, assurance, empathy and tangibles.

- Reliability of the service is about the fact that a firm is able to fulfill the accepted service in a dependable and accurate way, while responsiveness is the eagerness to provide support to customers and serving expeditiously (Kim, Kim, & Shin, 2009). In a survey of European Electronic Messaging Association, more than 79 percent of attendees showed reliability as the top element which e-commerce customers worry about (Shankar, 1996). The reliability aspect of service quality can be thought as concept of trust. Trust enables affirmative impersonal conditions which constitutes success in transactions (Zucker, 1986).
- According to Wan (2000) responsiveness can be examined by two aspects: load time and search time. Search time is related with the database size of the website. Weinberg (2000) states that if the load time longs much more than the amount of time that web user is eager to wait, then he/she will switch to another website or quit the internet.
- Empathy is about how much care and personal concern is presented to customers. E-mail, chat rooms, bulletin boards and mailing lists are different ways of achieving empathy in online environment (Chen, 2001).
- Tangibles refer to the physical potentials, equipment and staff. In e-commerce context, up-to-date software and hardware are examples of tangibles.

Another model to measure system quality and foresee user acceptance is Technology Acceptance Model (TAM) Model of Davis (1989). This model uses two factors to make this prediction including perceived usefulness and perceived ease of use. Perceived usefulness is defined as how much a person thinks that the usage of the related system will provide improvement in his or her performance. The other element,

perceived ease of use is at what degree a person thinks that the usage of the system will not be difficult for him/her. This model is an extension of Theory of Reasoned Action (TRA) developed especially for modeling user acceptance of Information Systems. In this regard, TAM is suitable to explore user acceptance in e-commerce websites since TAM relates to most of IS issues. TAM is examined in detail in Chapter 4.

Another study suggests that there are four factors including "website design, fulfillment/reliability, privacy/security and customer service are strongly predictive of customer judgments of quality and satisfaction, customer loyalty and attitudes toward the website" (Mary & Mary, 2003, p.183). The factors are listed and descripted as below.

- Website design involves all the elements in the website that customer experiences while he or she visited the website including navigation, search of information, process of orders, personalization and selection of products.
- Fulfillment/reliability includes proper display and description of a product to ensure that customers get the product which they ordered, and the arrival of the right product in the committed time.
- Privacy/security covers the security issues related with credit card payments and privacy of the information which is shared with the website.
- Customer service requires responsive, supporting and eager service with short response time to consumer requests.

Solomon, Bamossy, Askegaard, and Hogg (2006) sampled these elements with customer judgments as in Table 3.4.

Table 3.4: ETailQ items: measuring customer satisfaction with websites (Solomon et al., 2006, p.317)

Factor	Customer judgment
Website design	1. The website provides in-depth information. 2. The site doesn't waste my time. 3. It is quick and easy to complete this transaction at this website. 4. The level of personalization at this site is about right, not too much or too little. 5. This website has good selection.
Fulfillment / reliability	6. The product that came was represented accurately by the web site. 7. You get what you ordered from this site. 8. The product is delivered by the time promised by the company.
Security / privacy	9. I feel like my privacy is protected at this site. 10. I feel safe in my transactions with this web site. 11. The website has adequate security features.
Customer service	12. The company is willing and ready to respond to customer needs. 13. When you have a problem, the website shows a sincere interest in solving it. 14. Inquiries are answered promptly.

In e-commerce quality, undoubtedly website design is one of the most important elements. In this regard, Jones and Degrow (2011) reviewed Fortune 500 homepages of 2008 in order to determine the common design practices which increase the usability and so the meeting rate of customer expectations. The results indicate that 80% or more of the 500 homepages meet the criteria below: "

- Link to employment information
- Link to an 'about us' section

- Link to information for investors
- Link to contact information
- Horizontally oriented primary navigation
- Company logo in the top left of the page" (Jones & Degrow, 2011, p.26).

In addition to this, 50% to 79% of the websites have the features commonly below: "

- Link to a privacy policy
- Link to a legal information or terms of use page
- Link to a sitemap
- Search box located in the upper right of the screen
- An image (either clickable or not) as the focal point of the page" (Jones & Degrow, 2011, p.26).

3.8. Overview of E-commerce in Turkey

According to Hwang, Jung and Salvendy (2006), "internet infrastructure, which supports e-commerce, was characterized by four indicators, such as Internet usage, Internet penetration rate, Internet use growth and broad-band access rate" (p.6).

In terms of households with access to the internet by 2010, Turkey is ranked as 33th (41.6 % of all households) among OECD countries. This rank is the same as 33th (44.2 % of all households) in percentage of households with access to a computer at home by 2010. For the percentage of all household with broadband access, Turkey is again 33th (33.7% of all households) by 2010, while this rank is 13th (88% of businesses) in the percentage of businesses' broadband access which are with 10 or more employees. For the internet penetration (the proportion of Internet users among the population), rank is 9th (97.9% of businesses) for Turkey in percentage of businesses with 250 or more people in 2010. These figures show that the internet use grows rapidly with the increasing high penetration rate and with the broadband access which provides high-speed Internet access.

In Turkey, nowadays e-commerce activities are growing rapidly, but still Turkey seems to fall behind most of countries in the world. Figure 3.6 shows the increase in

the number of adults who ordered or purchased goods or services on the internet in 2007 and 2010. Although there is a growth in Turkey, the percentage is very low in comparison with other OECD countries.

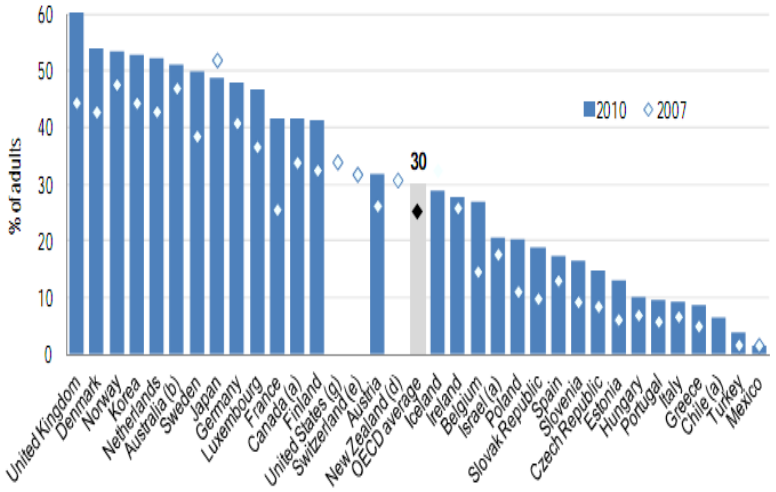

Figure 3.6: Individuals who ordered or purchased goods or services on the Internet (OECD,2010)

A research of Lightner, Yenisey, Ozok, and Salvendy (2002) shows that more than a half of people in Turkey are indecisive about sharing their credit card information online due to the fear that information can be stolen by third parties and the absence of security feeling which is the basic reason for consumers' not shopping online. E-commerce activeness of Turkish consumers also differs in terms of gender. A study, which investigated the internet usage of Turkish women in urban areas, found that 98% of them do not shop online (Sevdik & Akman, 2002).

For e-commerce success, the presence of institutional environment which supports the e-commerce activities such as credible payment channels (e.g. credit cards) is important (Oxley & Yeung, 2001). Although credit card systems exists in Turkey, consumers are generally reluctant to use credit card and tend to pay by cash and are more risk-averse than U.S. consumers (Polatoğlu & Hepkul, 2006). When the usage of credit cards in recent years in Turkey is examined, an increasing trend can be observed (Figure 3.7). On the other hand, Turkish customers are still unwilling to share their card number in an online environment.

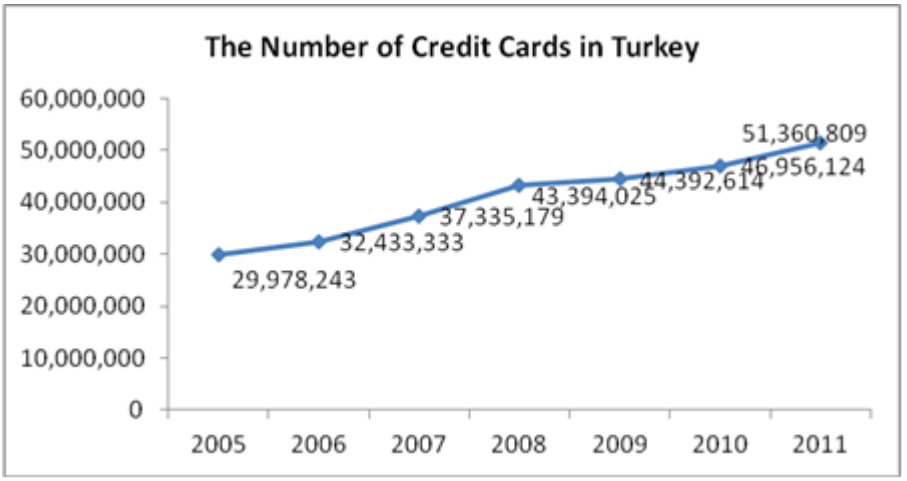

Figure 3.7: The total number of credit cards in Turkey (BKM, 2012)

The rapid growth in e-commerce transactions in Turkey can be seen from Figure 3.8 which shows the total number of transactions in terms of the usage of domestic cards in Turkey and outside of Turkey and Figure 3.9 which shows the total number of transactions in terms of the usage of domestic and foreign cards in Turkey.

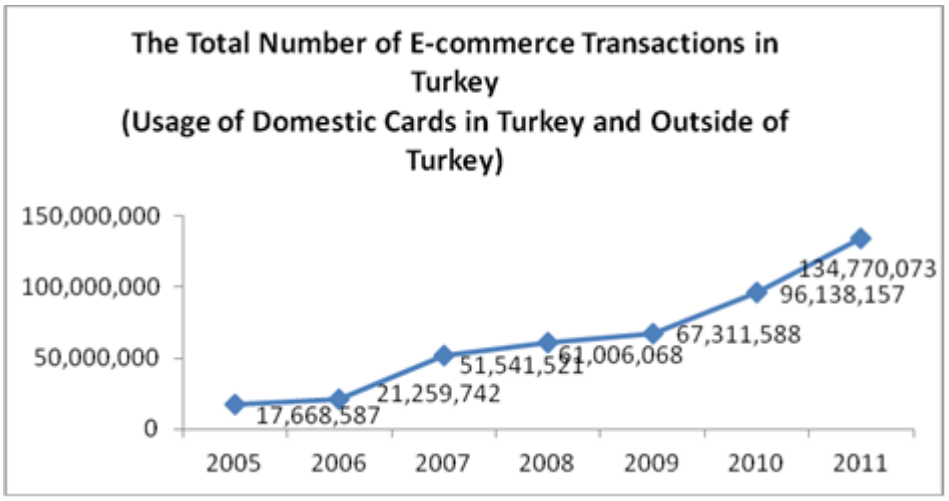

Figure 3.8: The total number of e-commerce transactions in Turkey (Usage of domestic cards in Turkey and outside of Turkey) (BKM, 2012)

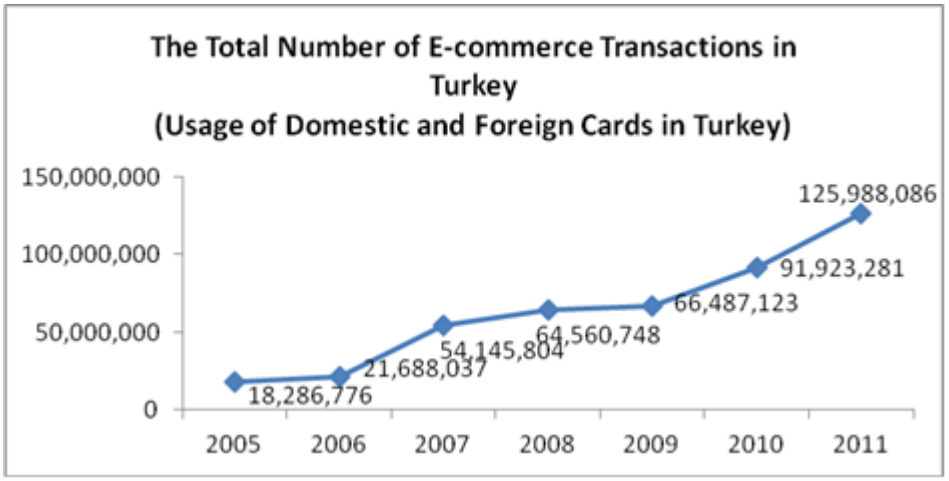

Figure 3.9: The total number e-commerce transactions in Turkey (Usage of domestic and foreign cards in Turkey) (BKM, 2012)

In Turkey, the only resource for e-commerce transaction is the virtual POS transaction amounts that are declared by BKM[1] in certain time periods. Besides, in Turkey most of the companies which have dealership or sales networks process the incoming orders to the center via virtual POS. For example, the demand of a mobile operator shop which sells prepaid minutes for cell phones, the flying tickets or holiday packages that are purchased from a travel agency are entered to the system via virtual POS. Therefore, a great amount of commerce which does not belong to e-commerce is included to the numbers declared by BKM. In addition to this, it is important to underline the fact that the declared numbers of BKM also includes the spending in travelling and tourism sector as well as online retailing. Finally, it is worth to point out that the declared data of BKM does not make the distinction of B2B e-commerce and B2C e-commerce.

According to the data provided in BKM website, the total number of e-commerce transactions for the first quarter of 2011 (between 1 January 2011 and 31 March 2011) has increased by 40%, reaching 28,096,690. In the first quarter of 2011, the sum of turnover increased by 45%, in comparison with the first quarter of 2010 and reached 4,843,500 TL (Bitdunyasi, 2011).

[1]BKM is "The Interbank Card Center" which "was established in 1990 with the partnership of 13 public and private Turkish banks for the purpose of providing solutions to the common problems and developing the rules and standards of credit and debit cards in Turkey, within the card payment system" (Source: www.bkm.com.tr).

According to Inceçam and Minasyan (2011), the one of the primary reasons for this growth is that the force of the usage of 3d-secure system, which added an extra security layer for online credit and debit card transactions, provided consumers to make more secure payments online. By Article 27/A (7) of the Regulation on Bank Cards and Credit Cards was enforced as of January 2011, presenting the usage of 3d-secure system in online payments became compulsory. On the other hand, according to the BKM statistics, currently, the total number of merchants which have 3d-secure facility is 15.571 out of total 55.141 virtual merchants which mean a percentage of 28.23%. This number seems to be very low since it has not reached even a half of all the merchants.

Inceçam and Minasyan (2011) commented about the current e-commerce regulation as:

> At present, there is no specific e-commerce regulation in Turkey. The general principles set forth in the Code of Obligations, the Consumer Protection Law, the Regulation on Distance Sale Agreements, the Electronic Communications Law and the Electronic Signature Law are applicable to different pillars of e-commerce transactions and e-contracts (p.1).

Moreover, The Consumer Protection Law and the Regulation on Distance Sale Agreements are the main components of legislation related with the protection of consumers in online sales. According to Consumer Protection Law, "distance sale agreements are agreements agreed via written, visual, telephone and electronic media or other communication tools and without coming face-to-face with the consumers" (Inceçam and Minasyan, 2011, p.2). Before a distance sale agreement is exposed, a notification which includes the required information put forth in the Regulation must be assured to the consumer. If the consumer doesn't approve in writing he/she got such information, the agreement cannot be finalized. In electronic agreements, the approval of the consumer also must be provided through electronic media.

A recent development regarding e-commerce regulation in Turkey has been done in May 2012 in which a leading European internet regulation consultancy firm Considerati and a leading Turkish IT law firm BTS & Partners has signed a collaboration agreement (Considerati, 2012). The aim of the collaboration between

Considerati and BTS & Partners is to speed up e-commerce in Turkey and enable cross-border e-commerce by contributing Turkish businesses in acting on EU legislation and policies. Some of the important issues of collaboration issues are related with privacy, cyber security and copyright. Additionally, the collaboration targets to help European e-commerce firms to take part in developing Turkish market.

One of the improvements in online transaction security in Turkey is the payment option by using virtual credit card. Virtual credit card numbers are also called as "single-use numbers or 'disposable' credit card numbers" (Palmer, 2010). They are now being presented by most of the banks in Turkey and via online services such as Paypal. These credit cards are developed for consumers to use them when shopping online so that they substitute physical cards. They have same number of digits and other features such as expire date, CVV2 value, available limit which physical credit cards have. As different from a physical one, the user decides how much money to put on the credit card and specifies the limit of it. The user can give the limit equal to the purchase he/she will realize and he/she can also determine the expiration date as 1 month later after the purchase. In case of a hacker steals the virtual credit card number; the card will be unusable since it has no limit, or it is already expired. These features add security aspects to a virtual credit card.

Although they have many important advantages, there are some considerations about the usage of virtual credit cards. In some purchases, for example, in airline, hotel reservations, in order to receive the tickets, or to check into a hotel, it is necessary to provide physical credit card. In such cases, since virtual credit cards do not have a physical existence, their usage can be inconvenient.

Figure 3.10 shows the total number of virtual credit card transactions including the transactions which have been done by both domestic credit cards and foreign credit cards between 2007 and 2011. There is a growing trend is clearly observed within the last 4 year statistics, especially between years 2010 and 2011. Further, for the first half of 2012, the number of virtual credit card transactions is 3.600.381, while this number is 2.470.293 for the first half of 2012.

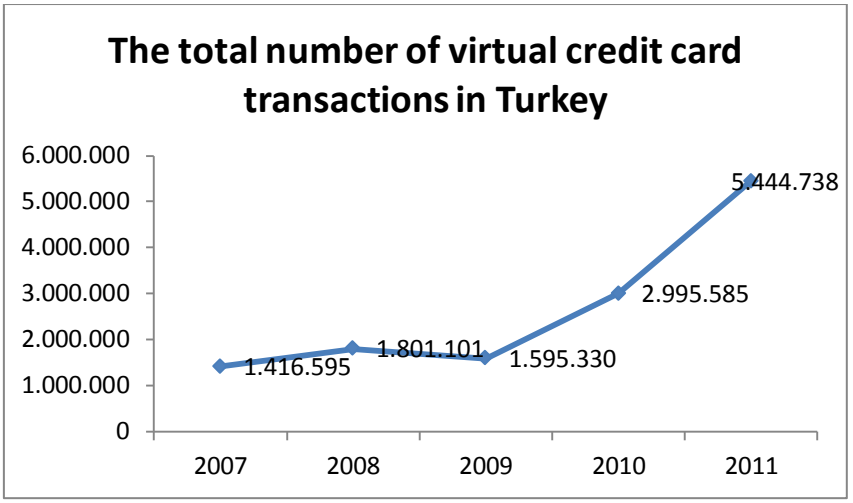

Figure 3.10: The total number of virtual credit card (foreign and domestic credit card) transactions in Turkey (BKM, 2012)

Figure 3.11 shows the total amount of virtual credit card transactions including the transactions which have been done by both foreign and domestic cards between 2007 and 2011. It can be seen that the increase in the amount is parallel to the increase in the number of transactions. Additionally, the amount for the first half of 2012 is 471.02 billion Turkish liras, while this value is 340.25 billion Turkish liras for the first half of 2011. These numbers also show that virtual credit card usage also increased the shopping basket amounts.

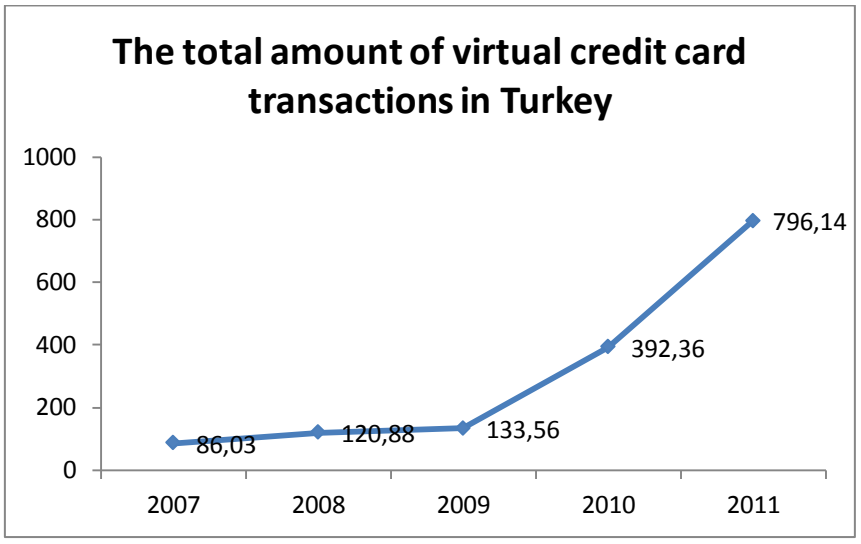

Figure 3.11: The total amount of virtual credit card (foreign and domestic credit card) transactions in Turkey (BKM, 2012)

These facts show that while more banks are presenting this facility to their customers, more people in Turkey are going to become conscious about their existence and they are starting to use them. On contrary, although the ratio of virtual credit card transactions in total number of e-commerce transactions in Turkey has a growing trend year to year, the percentages seem to be very low. As it can be seen from Table 3.5, for 2011, the percentage of virtual credit card transactions in total e-commerce transactions is only 4.32%. This number indicates that there are still a high proportion of people who use their physical credit cards instead of virtual credit cards in e-commerce transactions. These people are either unaware of this payment option or they are not well aware of the potential risks in an online environment, or they really trust the website which they are shopping. Besides, there are a high number of people who do not shop online because of the security concerns related with the share of their credit card numbers and they do not have any idea about virtual credit cards.

Table 3.5: Total number of virtual credit card transactions and their ratio in total number of e-commerce transactions (BKM, 2012)

Year	**Total number of virtual credit card transactions**	**Total number of e-commerce transactions**	**Ratio of virtual credit card transactions (%)**
2007	1.416.595	54.145.804	2,62
2008	1.801.101	64.560.748	2,79
2009	1.595.330	66.487.123	2,40
2010	2.995.585	91.923.281	3,26
2011	5.444.738	125.988.086	4,32

When the virtual credit card facility offered by Turkish banks is investigated, it can be seen that, almost all of the banks have it and provide this service free for its customers. While some banks require customers to have a credit card belonging to the bank, some banks evaluate to have an account on the bank as a sufficient condition. To have them is so easy that a customer can get it in minutes from the internet banking website of the bank. The customer also can also apply for it via different channels such as branches and ATM machines.

Although Turkish banks' well-developed and convenient systems for their customers to get virtual credit cards and to carry out more risk-free e-commerce transactions online, the minority in the number of virtual credit card transactions can originate from inadequate advertisements of the banks about this product and also from e-commerce websites which do not mention about virtual credit cards as a secure way of making payment online.

3.9. Overview of E-commerce in the World

Advances of the Internet furnished consumers a potent drive for searching and buying among different alternatives of goods and services from vendors all around the world, from anywhere and at any time.

In Figure 3.12, internet users per 100 inhabitants can be seen for the years between 1997 and 2007. The rising number of people who are connected to the internet is a considerable driver for rapid e-commerce growth.

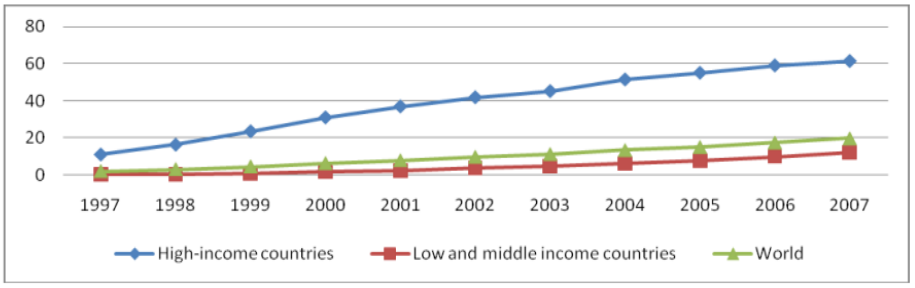

Figure 3.12: Internet users per 100 inhabitants 1997-2007 (ITU [International Telecommunication Union], 2007)

It brought fervent competition and depending on it pulled the prices down. According to Visa Europe statistics in 2011, 25% of Visa transactions in the European Union (EU) were made online and the United Kingdom was the largest market. It is estimated that by 2015, it can reach 45%. The increase in the total mobile volume of PayPal from USD 25 million in 2008 to USD 750 million in 2010 is also a good indicator for this growth. In spite of the good statistics in these regions, there are still some countries in which e-commerce has not reach its full potential yet because of the possible trust and security concerns about payment and personal information detail of people when they share during shopping. However, according to the statistics, only 1% of European Union consumers who made online shopping had a problem of payment detail theft.

As a precaution of these issues, new guidelines, laws and regulations and effective mechanisms were introduced and put into practice in many countries for consumer protection against fraudulent and unjust practices.

The Guidelines for Consumer Protection in E-commerce were approved on the 9th December 1999 by the OECD Council and it provided more protection for shopping online. The guidelines lightened some unclear issues when consumers and businesses face during the e-commerce processes. They are "technology-neutral, encourage private sector initiatives that include participation by consumer representatives, and emphasize the need for co-operation among governments, businesses and consumers" (OECD, 1999, p.3). Some of targeted issues to stimulate were (OECD, 1999):

- Fair business and marketing practices in e-commerce such as having accurate and clear information about:
  - business identity (e.g. legal name of the business, geographic address of the business, email address or other contact information, any relevant government registration or license numbers),
  - goods and services being sold
  - terms, conditions, warranties, costs and other issues related with transaction
  - proper and competent resolution of disputes, location of the business, service of legal process, business's easy and effective communication with customer
- Clear process for confirmation of transactions
- Security in payment processes
- Privacy protection and education of consumers and businesses.

By the implementation of these guidelines, e-commerce has shown a great enlargement. Better research, comparison capabilities, customization and expanded choice of products and services and increase in clarity provided a great enhancement in consumer experience. New product and services that were introduced by copyright industry also contributed to this progression.

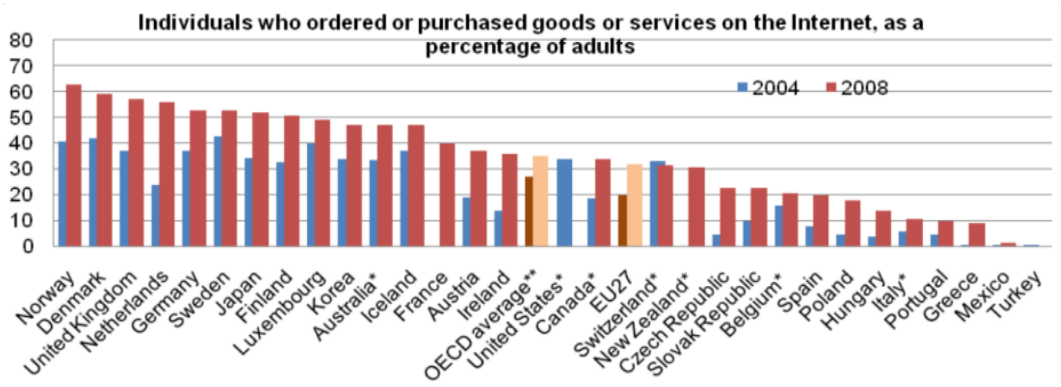

Figure 3.13: Individuals who ordered or purchased goods or services on the Internet as a percentage of adults (OECD, 2009)

Figure 3.13 depicts that the number of consumers who ordered or purchased goods or services on the Internet, as a percentage of adults has been risen from 2004 with a percentage of 26.9 to 35 in 2008 as OECD average. It also shows that in 2008, a half of adults from many European countries ordered or purchased goods or services on the Internet. On the other hand, there are still several countries which have a percentage below %50, even %10.

3.10. Summary of the Chapter

In this chapter, e-commerce concept and many related terms related with e-commerce such as e-business, e-marketing, internet marketing and e-retailing have been identified to give a clear understanding of the terms which are used sometimes together or interchangeably. Additionally, different types and implementations of e-commerce have been identified with examples. The advantages, which e-commerce provides for companies and individuals are considerable, although it has some limitations such as lack of universal standards for security, quality and reliability, insufficient bandwidth, expensive accessibility and expensive technology. Taking the pros of e-commerce brings into consideration, the investigation of information system success models, service quality aspects, and the ways for measuring customer satisfaction have been subjected. Finally, major e-commerce developments in Turkey and in the world have been examined to draw the current status of e-commerce. In the following chapter, trust in e-commerce will be dissected in detail by several models, theories and techniques from the literature review.

Chapter 4

Trust in E-commerce

4.1. Objective of the Chapter

The objective of this chapter is to give information about the characteristics of online trust and to mention about the theories and the models related with trust and consumer behavior in the literature. Additionally, the chapter purposes to point out several privacy, security and legal issues in e-commerce and to give information about the technologies and the techniques to build trust in e-commerce. Lastly, it is aimed to identify the relation between trust and web design.

4.2. Characteristics of Online Trust

The characteristics of online trust are similar to offline trust, but there are still some significant differences which are peculiar to online environment. These characteristics can be defined as below (Wang & Emurian, 2005):

- Trustor and trustee. While in offline trust, the trustor and the trustee may be various entities; in online trust these roles are specific entities. The trustor is generally a consumer who is using an e-commerce website and the trustee is the e-commerce website. Moreover, the technology (especially the Internet) occasionally is a trust element (Marcella, 1999).
- Vulnerability. Since nature of e-commerce is complicated and anonymous, sellers can act in an unexpected way on the Internet while buyers are unaware of risks exist and their results in online transactions. Gefen (2002) comments about that: "Even when online consumers only examine a web site without purchasing from it, data may be automatically collected about their activities and later misused or distributed without their consent or knowledge" (p.40).

  Friedman, Howe and Kahn (2000) also state that in online environment, consumers are vulnerable to particular breaches including money and privacy loss.

- Produced actions. Consumer trust in online seller results in two particular consumer actions including purchasing from the merchant by sharing credit card and personal information and window-shopping in the e-commerce website. In both situations, merchants get positive outcomes by real or possible sales.
- Subjective matter. As offline trust depends on personal distinctions and stateful factors, online trust is also subjective (Grabner-Kraeeter, 2002). The degree of trust to shop online and people's approach towards technology differ from person to person.

4.3. Models and Theories related with Consumer Behavior and Trust

There are many trust models exist in the literature which clarify the consumer behavior and depict the trust issues behind them. In this section, they will be examined and several principles will be concluded for consumer trust in online environment by the help of models' and theories' investigation.

4.3.1. Theory of Reasoned Action

This theory explains the reasons for consumers' purchase decisions in online environment.

Theory of Reasoned Action (TRA) suggests that behavioral intention (BI) of an individual depends on attitude (A) and subjective norms (SN) of him or her (Fishbein & Ajzen, 1975).

$$BI = A + SN$$

That is, if the attitude and subjective norms of an individual is known, then it is possible to predict the behavioral intention (Fishbein & Azjen, 1980).

The theory suggests that a person's attitude toward a behavior contains the belief of the person that a specific behavior will result in particular outcomes and the evaluation of the person of those outcomes (Wu & Liu, 2007). According to them, the desire to carry out specific behaviors was directly affected by social pressures and the motivation of the individual to withstand to those pressures. Pavlou (2002) states that

the wide usage of technology, the non-individualistic structure of online business, the vulnerability of information provided by several parties, and ambiguity of experiencing a new medium boost consumer inconvenience in online transactions.

On the other hand, Ajzen (1991) concluded that, subjective norms help someone to make decision, but do not provide the control of it; so the personal thoughts are likely to overcome the effect of social pressures.

4.3.2. Theory of Planned Behavior

The theory of planned behavior was proposed by Ajzen in 1985. This theory is an extension of theory of planned behavior by considering situations in which individuals do not possess full dominance over a specific situation.

According to Chai and Pavlou (2004) this theory suggests that specific prominent beliefs affect behavioral perceptions and real behaviors. Chai and Pavlou commented:

> Attitude, subjective norms, and perceived behavioral controls explained the intention to engage in a behavior, and that intention to engage in the behavior explained the behavior itself. There are three types of beliefs in the TPB that impact three perceptual constructs: behavioral beliefs that influence attitudes, normative beliefs that affect subjective norm, and control beliefs that shape perceived behavioral control (p.417).

According to Ajzen (1991), attitude against a transaction is related with the total assessment of the attractiveness of the possible behavior. On the other hand, subjective norms show the effect of an individual's normative beliefs depended on the fact that other people accept or reject a specific behavior. Moreover, Ajzen stated that perceived behavioral control corresponds to customers' perceptions of the fact that if a behavioral action was under their control. In terms of these elements in theory of planned behavior, it contributes to the investigation of the origins of customers' intentions to participate in online transactions.

Ajzen (1988) asserted that each behavior was not pertaining to volition and was positioned at a point in a course of control from full control to zero control. The factors that are effective in the control include interior factors such as emotions,

talents, capabilities and exterior factors such as conditional and environmental factors. The elements of Ajzen's model pertaining to behavioral intention enclose attitude, subjective norms and perceived behavioral control and this intention can lead to actual behavior as it is shown in Figure 4.1.

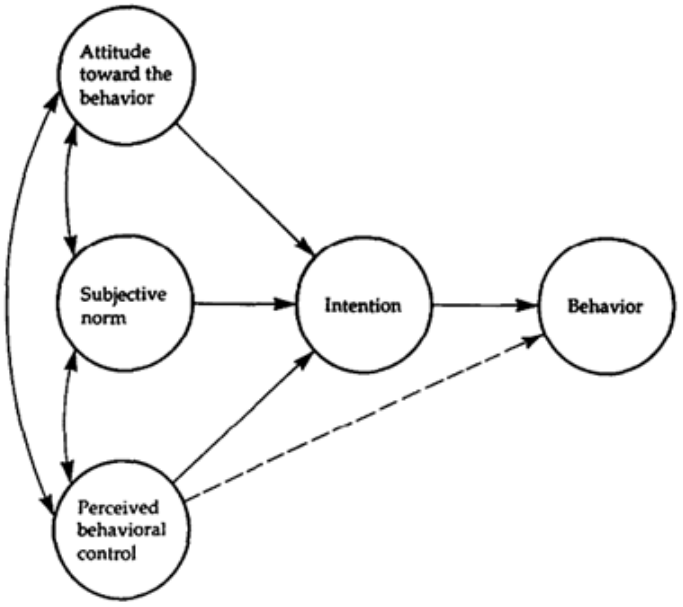

Figure 4.1: Theory of Planned Bahavior (Ajzen, 1991)

Ajzen and Madden (1986) also suggested that when the attitude and subjective norms are more assertive, the perceived control and the individual's intention to carry out the related behavior are greater.

4.3.3. Social Exchange Theory

Another theory which forms a basis for e-commerce trust is Social Exchange Theory. According to this theory (Thibaut & Kelley, 1959), individuals get exchange relationships on the ground of trust. Out of these exchange relationships, the ones which probably cost greater than the probable reward will be prevented. Blau (1964) also referred to Social Exchange Theory as "voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others" (p.92). On the internet, customers generally feel risk at higher levels than as it is in traditional shopping environment because of the reasons such as distance factor, existence of virtual identities, and deficiencies in regulations (Tan, 1999). Gurung (2006) stated that, customers make the calculation of risk by weighting their privacy

concerns against advantages of attending in e-commerce transaction. In this regard, Chang (2003) also highlighted that actors in the exchange relationship must keep up responding for the benefits gained, and they proceed to make interaction if they observe the relationship creates a worthy output; else, they switch to a more appealing one.

Coleman (1990) suggested that in a social exchange, one of the sides generally anticipates return in reply to a support or a service extended to the other side, and the time mismatch in delivery brings risk for the side extending resources and services before getting any return. Furthermore, Blau (1964) argued that social exchange necessitated trusting others to exempt their necessities since there was no assured return for the extended support or service. Since people free from their necessities for services extended, they show trustworthiness and commitment.

4.3.4. Consumer Behavior Model and Decision Making

The field of consumer behavior deals with the ways how consumers decide to allocate time, money, effort etc. on items associated with consumption (Schiffman & Kanuk, 1997). Belch (1998) provided the official definition for consumer behavior as "the process and activities people engage in when searching for, selecting, purchasing, using, evaluating, and disposing of products and services so as to satisfy their needs and desires" (p.105).

The model was first developed by Wells, Burnett, and Moriarty (1989), suggests that people make decisions primarily by identifying their needs and afterwards make research to get information and satisfy the necessary needs. This information search turns into a continuous process when consumers deal with many problems and encounters with opportunities. According to Hawkins, Best, and Coney (1998), if consumers search information for a long time period, then they become aware of advantages of this search, like cheaper and higher quality products/services, perfect decision making and a lower level of risk perception. Moreover, they also argued that while consumers encounter with problems in satisfying their needs, they look for other options and also measure the efficiency of each option to make a purchase decision.

Consumers also differ from each other in this decision making and problem solving process. Jahng, Jai, and Ramamurthy (2002) commented that "people are inherently different in how they acquire and process information while engaged in decision making or problem solving" (p.183). In this regard, McIntyre and Capen (1993) argued that the means of getting information and its usage to make decisions were major topics of behavioral science.

Solomon et al. (2006) defined the decision making process consisting of five steps including problem recognition, information search about the product, evolution of alternatives, product choice and outcome and sampled it with the decision making process in buying a television as indicated in Figure 4.2.

In this model, the problem recognition takes place when the consumer realizes a considerable gap between his or her current state and the desired state. After the problem is recognized, the consumer needs to get the necessary information to solve the problem and he or she investigates the environment for the needed data to make a rational decision. Then, the consumer makes a choice from the available alternatives and this stage is the most effortful stage of decision making process. After making a choice, consumer buys the product and uses it.

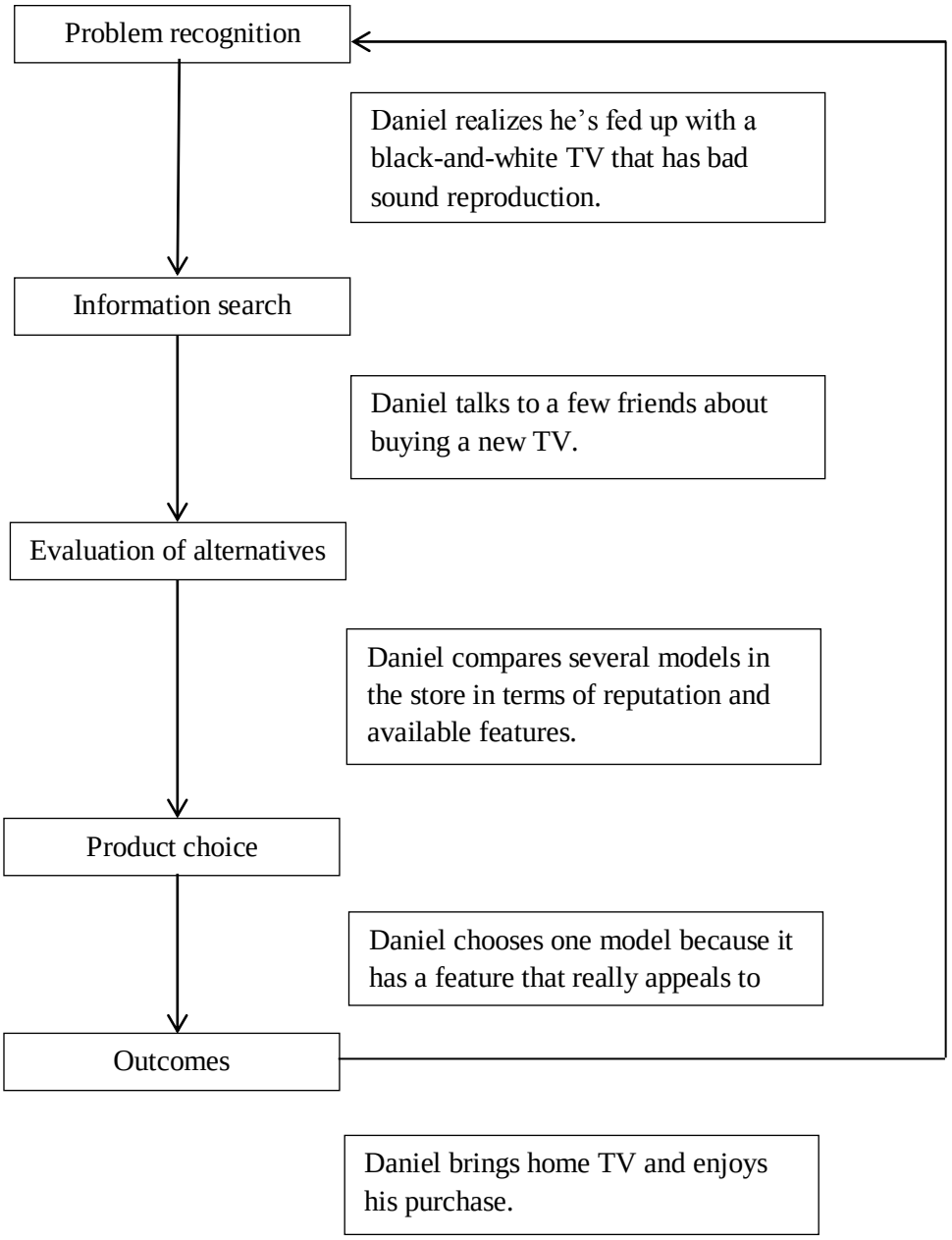

Figure 4.2: Stages in Consumer Decision Making (Solomon et al., 2006, p.258)

4.3.5. Online Consumer Behavior Model and Decision Making

Consumers' behaviors and attitudes can change depending on the trading environment. These behaviors and attitudes vary in traditional shopping activities (buying from physical stores) and online shopping activities (buying from Internet store). The above definition of Belch (1998) is also acceptable for online consumer behavior. Consumers get through the same process, but in a different atmosphere.

Figure 4.3 depicts the consumer behavior model which is adapted to e-commerce environment.

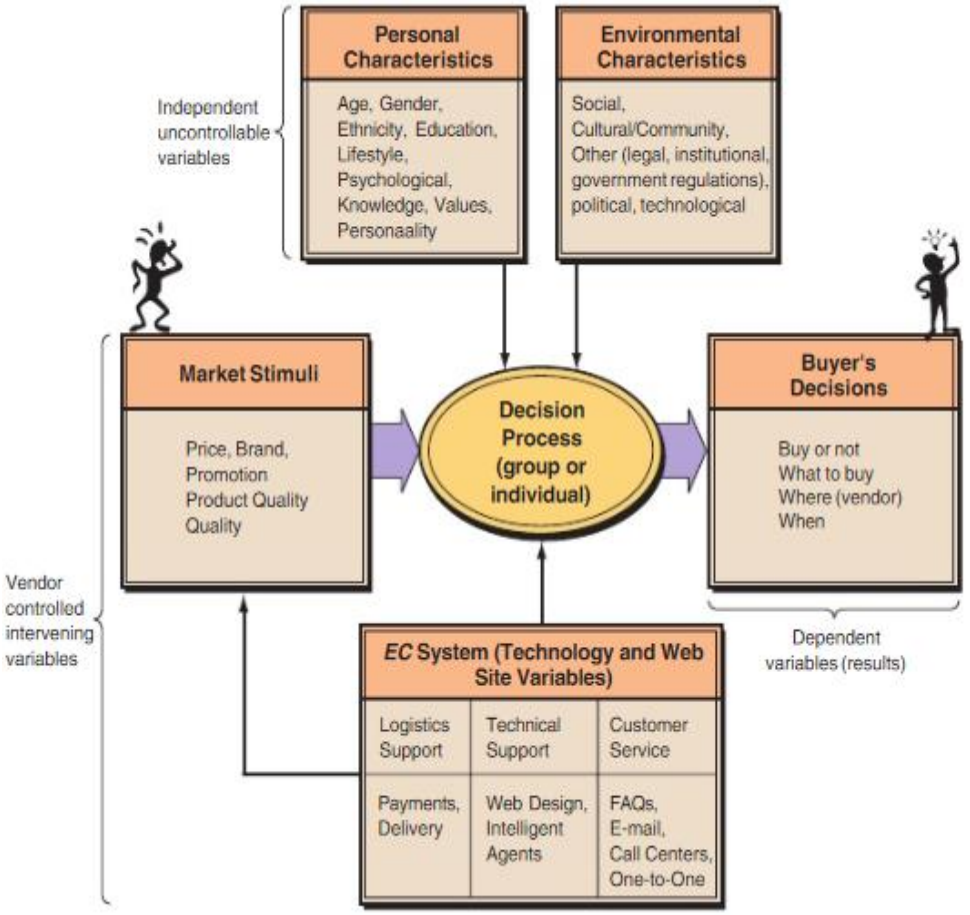

Figure 4.3: EC Consumer Behavior Model (Turban and King, 2003, p.193)

This model suggests that the decision making process in the e-commerce environment begins with customer's response to stimuli. Then, the process is influenced by personal traits of the consumer, by the environmental factors and also by the effects of the vendor system including logistic support, technical support and customer service. As an output of this process, consumer makes the buying decision.

Chan, Cheung, Kwong, Limayem, and Zhu (2003) proposed a model consisting of three stages which are intention, adoption and continuance (Figure 4.4). They also commented that there are some consumer, product/service, medium, merchant and intermediary, environmental characteristics exist which affect the development and the flow of this process. In comparison with the model of Turban and King (2003), this

model also explains consumer online repurchasing behavior differently.

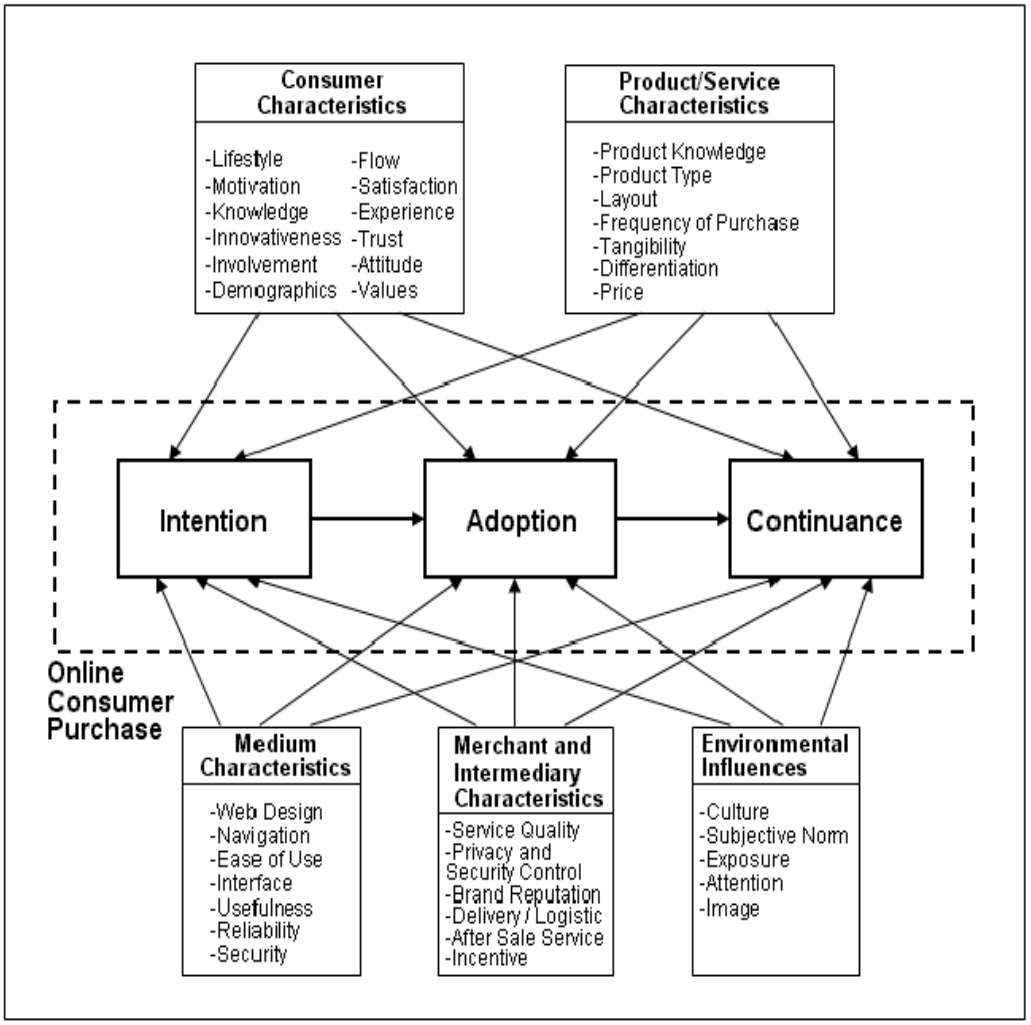

Figure 4.4: Framework of Online Consumer Behavior
(Chan et al., 2003, p.201)

Another model, shown in Figure 4.5, belongs to Koufaris, Kambil, and LaBarbera (2002) also includes shopping enjoyment and perceived control as the determinants of online consumer behavior. The study concludes that an online business must be able to ensure enjoyment and high levels of perceived control in order to gain repetitive customers. Rice (1997) further suggests that the experienced enjoyment in online shopping may be an important indicator for customer loyalty.

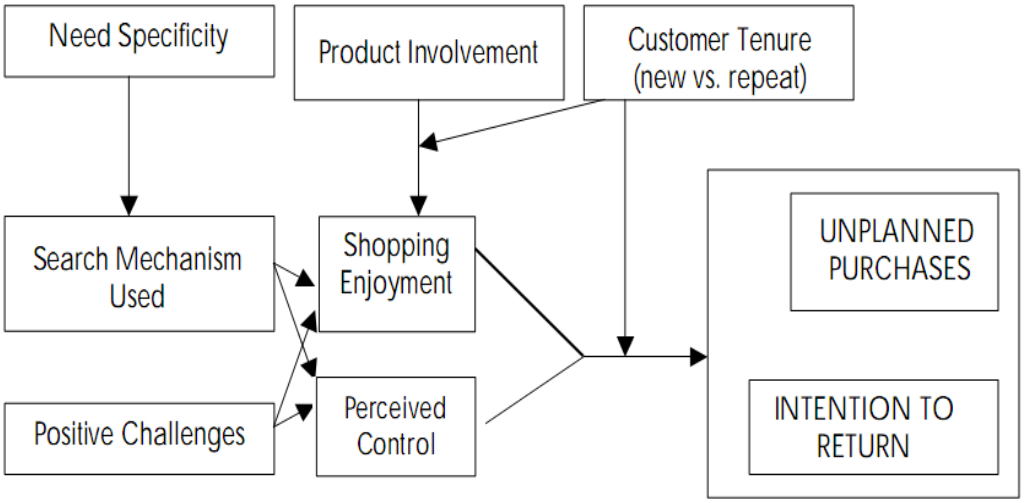

Figure 4.5: Theoretical framework for consumer attitudes and behavior on the web (Koufaris et al., 2000, p.117)

The study also indicates that product involvement of customers can affect their online experience. This effect is more significant for repeat customers than new customers. Furthermore, the study also stresses that value-added search mechanisms are more necessary when the necessities of the customers are less specific.

4.3.6. Theory of Perceived Risk

Online shopping is not very old and may be thought as relatively new in many countries. For this reason, it may bring some problems for consumers. The previous study of Bhatnagar, Misra, and Rao (2000) denoted that there is a relationship between the perceived risk of a new shopping environment and the decision of purchasing using that environment.

Consumers generally perceive risk while they are deciding to purchase, when the degree of perceived risk is mostly higher in the decisions of non-store purchasing (Dollin, Dillon, Thompson, & Corner, 2005). In online shopping, purchasing also occurs in a non-store environment. According to Tan (1999), online shopping is evaluated as having higher risk perception or higher loss by consumers and for risk-averse consumers, the probability to do shopping on the internet is lower.

Bauer (1967) first mentioned the perceived risk concept and suggested that risk can be

viewed as the uncertainty and outcomes related with consumer's behaviors, of which may be pleasant or not. Many researchers have discussed the term and defined it in many different ways.

Kogan and Wallach (1964) proposed that risk may have a 'chance' aspect where emphasis on probability and a 'danger' aspect where focus is on severity of negative consequences:

> "…a chance aspect where the focus is on probability (of losing) and a 'danger' aspect where the emphasis is on severity of negative consequences of purchase" (Peter & Tarpey, 1975, p.30).

Cunningham (1967) thought perceived risk composed of two analogue elements as:

> "…the amount that would be lost (i.e. that which is at stake) if the consequences of an act were not favorable, and the individual's subjective feeling of certainty that the consequences will be unfavorable" (p.37)

According the definitions in the literature, two main concepts outshine: the probability of a loss and the subjective feeling of unfavorable consequences (Cunningham, 1967; Mitchell, 1999).

Perceived risk is basically related with search and selection of information about products or services before making decision to purchase (Dowling, 1986). If the online customers' present purchasing experiences are different from their purchasing goals, the risk perception of them will be higher (Pires, Stanton, & Eckford, 2004). Furthermore, Cox and Rich (1964) commented that perceived risk is based on the subjective uncertainty of the consequences. That means the consumers will have many different anticipated consequences for purchasing products or services, for every decision they make while purchasing. Perceived risk is not depended on objective judgments; rather it is related with the consumer's feelings and perceptions individually (Murphy & Enis, 1986).

According to researches, there are six components of perceived risk including financial, physical, functional, psychological, social and time-loss risk (Jacoby &

Kaplan, 1972; Roselius, 1971). Financial risk arises when the money spent for a product is more than it was required or when the value is not received for the money spent (Roehl & Fesenmaier, 1992). Another example of this risk type is losing money because of the posting material, or the risk of credit card information misuse. Consumers try to overcome this risk by making research or in other terms by "shopping around" to find the most favorable price. Physical risk contains the possible danger basically to consumer's security and health or welfare. Furthermore, functional risk, or in other words performance risk or quality risk, is related with the thinking that a product will not be efficient as it is expected or will not assure the expected benefits (Bauer, 1960). Featherman and Pavlou (2003) defined functional risk as "the possibility of the product malfunctioning and not performing as it was designed and advertised and therefore failing to deliver the desired benefits" (p.455). Next, psychological risk is defined as the experience of anxiety or psychological disturbance originating from expected behavioral emotional reactions such as worry and remorse because of purchase and usage of the product (Perugini & Bagozzi, 1999; Dholakia, 2001). Conservation of privacy against personal information disclosure is an example of this risk. The other component which is time risk arises when the time flow lessens the ability of the product to meet needs, such as when a product quickly turns out to be obsolete (Ross, 1975). Finally, social risk is the degree to which the consumer considers that other people appraise him according to the brand he or she prefers (Brody & Cunningham, 1968).

In the study of Hoffman, Novak and Peralta (1999), sharing credit card information was the most perceived risk item in online security and for this reason, security and privacy issues were the top reasons why some consumers do not prefer to shop online. Hoffman et al. also found that consumers may worry about sharing credit card information in any website and these consumers just do not trust most web providers enough to be included in exchange transactions entailing money. This perceived risk of consumers turns into disinclination to use their credit card information in the internet environment and it ends up with retreat from participating into online transactions.

Furthermore, many researchers highlighted that most of the websites on the internet do not concentrate on building and developing trust between them and their customers (Schoder & Yin, 2000; Urban, Sultan, & Qualls, 2000). This situation causes customers to quit online transaction and to turn into traditional shopping.

Solomon et al. (2006) classified the types of perceived risk in five categories as monetary, functional, physical, social and physiological. They also clarified these risk types according to the buyers most sensitive to risk and purchases most subject the risk as shown in Table 4.1.

Table 4.1: Five types of perceived risk (Solomon et al., 2006, p.272)

	Buyers most sensitive to risk	**Purchases most subject to risk**
Monetary risk	Risk capital consists of money and property. Those with relatively little income and wealth are most vulnerable.	High-price items that require substantial expenditures are most subject to this form of risk.
Functional risk	Risk capital consists of alternate means of performing the function or meeting the need. Practical consumers are most sensitive.	Products or services whose purchase and use require the buyer's exclusive commitment and preclude redundancy are most sensitive.
Physical risk	Risk capital consists of physical vigour, health and vitality. Those who are elderly, frail or in ill health are most vulnerable.	Mechanical or electrical goods (such as vehicles or flammables), drugs and medical treatment, and food and beverages are most sensitive.
Social risk	Risk capital consists of self-esteem and self-confidence; Those who are insecure and uncertain are most sensitive.	Socially or symbolic goods, such as clothes, jewellery, cars, homes, or sports equipment are most subject to it.

Table 4.1 (Continued): Five types of perceived risk (Solomon et al., 2006, p.272)

	Buyers most sensitive to risk	**Purchases most subject to risk**
Psychological risk	Risk capital consists of affiliations and status. Those lacking self-respect or attractiveness to peers are most sensitive.	Expensive personal luxuries that may engender guilt durables; and services whose use demands self-discipline or sacrifice are most sensitive.

4.3.7. Technology Acceptance Model

Technology Acceptance Model (TAM) is a theory that describes and models the way users adopt and utilize a technology. It is based on Fishbein and Ajzen's TRA Model.

The Technology Acceptance Model replaces the measures of TRA model and proposes that there are some factors which influence a user's decision about using a new technology including the factors "Perceived usefulness" (PU) and "Perceived ease-of-use" (PEOU).

Perceived usefulness is related with the degree which an individual thinks if he or she uses this system, an improvement will occur in his performance. The other component, perceived ease of use defined as the degree that an individual thinks that usage of the system will be effortless. There are also external variables in the system affecting the perceived usefulness and perceived ease of use and perceptions of the system users ascertain the attitude towards using the related system. Behavioral intention to use the system and depending on it, actual use of the system is determined by this attitude. Figure 4.6 summarizes the system flow.

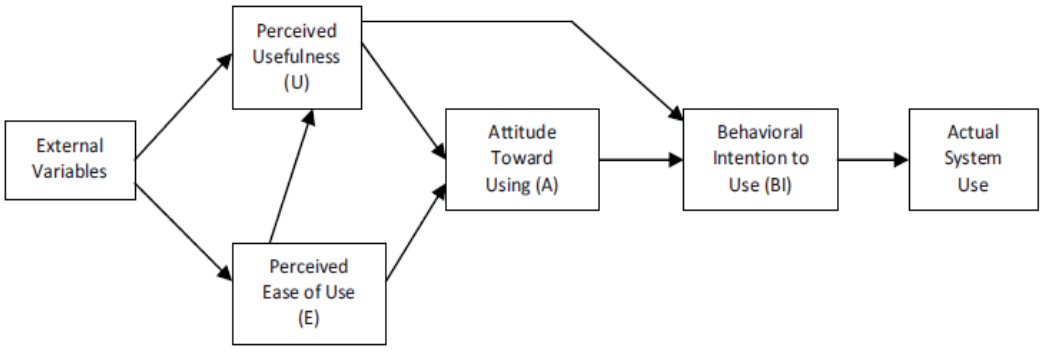

Figure 4.6: Technology Acceptance Model
(Davis, Bagozzi, & Warshaw, 1989, p.985)

According to the model, the system usage is not only determined by the attitude of the user but also by the effect of the system on his performance. It means that, although a user does not like an information system, he/she can use it, if he/she believes he/she will get better performance by using it.

Gefen et al. (2003) added trust as a separate factor to TAM model since trust is an important factor for an e-vendor to retain its customers (Reichheld & Schefter, 2000).

According to Gefen et al. (2003), a vendor's website can be evaluated as the importance of customer trust in the vendor and the TAM elements of IT acceptance of a website. However, he also suggests that PU and PEOU change with time as people get used to use the system meaning that these elements are important for repeat customer trust while they do not affect the decisions of potential customers.

4.3.8. Technology Acceptance Model 2

Model of Venkatesh and Davis (2000), "TAM2" extended TAM by adding some variables to the system explaining the reasons of the people's perceptions about the usefulness of a system. According to them, "both social influence processes (subjective norm, voluntariness, and image) and cognitive instrumental processes (job relevance, output quality, result demonstrability, and perceived ease of use) significantly influenced user acceptance" (Venkatesh & Davis, 2000, p.186). The model can be seen in Figure 4.7.

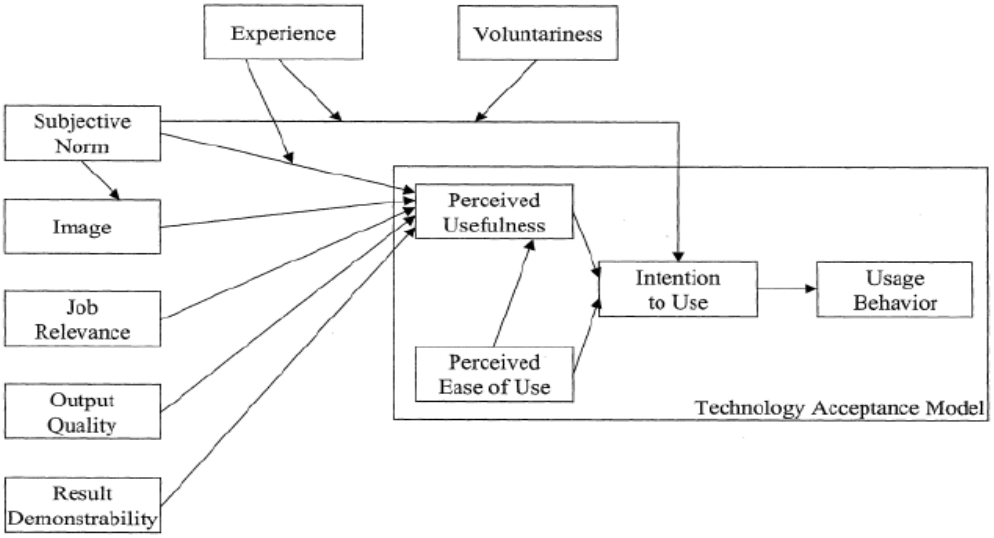

Figure 4.7: Technology Acceptance Model 2
(Venkatesh & Davis, 2000, p.188)

4.3.9. Extended Technology Acceptance Model

Venkatesh (2000) proposed another extension of TAM model identifies two sets of factors for the perceived ease of use variable in the TAM model which are anchors and adjustments as it can be seen from Figure 4.8.

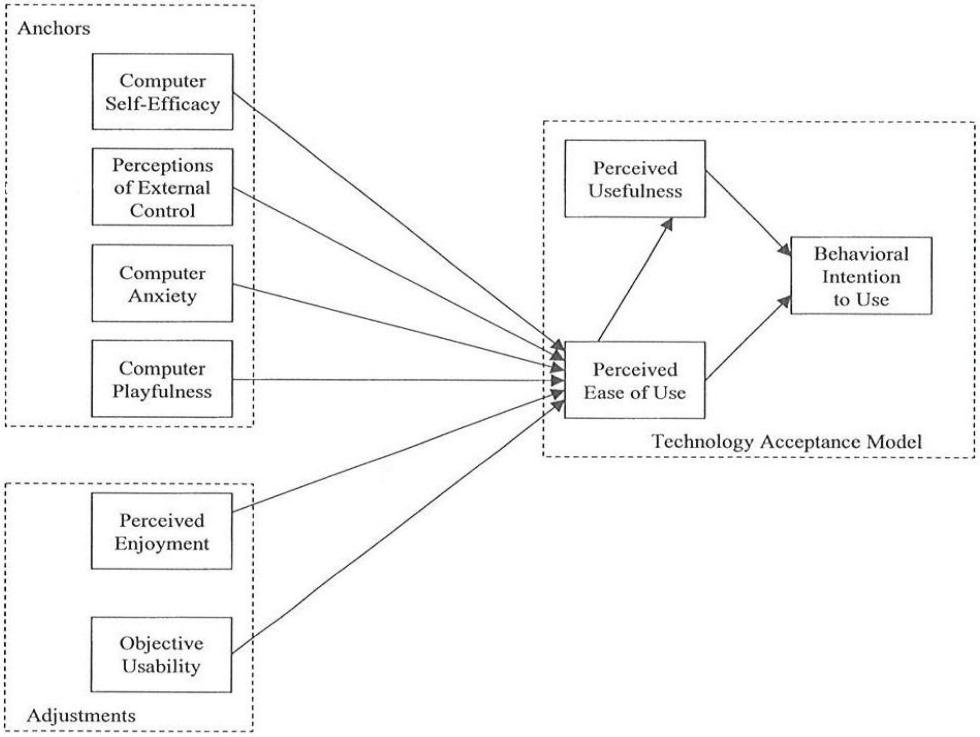

Figure 4.8: Extending TAM to include determinants for perceived ease of use
(Venkatesh, 2000, p.346)

Anchors were computers and their usage, while adjustments were viewed as beliefs and perceptions which are formed by the previous experience with the system. Venkatesh tested his model in three different organizations and results adjusted the variables he added to the system for the explanation of the perceived ease of use for a system.

4.3.10. Unified Theory of Acceptance and Use of Technology (UTAUT)

Venkatesh, Morris, Davis, and Davis (2003) have also proposed the Unified Theory of Acceptance and Use of Technology (UTAUT) as a join of earlier technology acceptance models. The model states that four key elements including "performance expectancy, effort expectancy, social influence and facilitating conditions directly determines the usage intention and behavior" (Venkatesh et al., 2003, p.447). "Sex, age, experience, and voluntariness of use" (Venkatesh et al., 2003, p.447) are stated to balance the effect of the four elements on usage intention and behavior.

4.3.11. A Process-oriented Multidimensional Trust Formation Model

Another study, which addresses trust by a process-outcome model in relationships between people, was done by Johns (Johns, 1996). According to this model, people who are named as "trustors" collect information from two sources which are trustee and situation, then handle it and constitute a trustworthiness belief. The importance of the model is that, it shows the significance of the trustworthiness belief in the trust generation period. In this model, there are four phases which are internalization of information, decision making, trust relationship and results of trusting. The first phase, internalization of the information encloses trustee perceptions and factors depending on the situation. Trustee perceptions comprise reliability, competence and his/her previous experience with the trustor. Factors, based on the situation, contain the risk perception in the relationship and avails of undertaking the risk. The next phase, which is decision making, includes information process and constitution of a trustworthiness belief towards the possible trustee. In the third phase, if the possible trustee is deemed in terms of trustworthiness in the related situation, the trustor will join in a trusting relationship. The last phase of the model indicates the outcomes of being included in a trusting relationship.

Kim, Song, Braynoy, and Rao (2005) proposed a trust formation model for B2C e-commerce which is based on the process-outcome model of Johns (1996). This model was developed according to B2C e-commerce market structure of Shaw's (Shaw, 1999).

According to this structure, Internet exchange process in B2C e-commerce occurs between four entities including seller, buyer, third party, and technology (Figure 4.9).

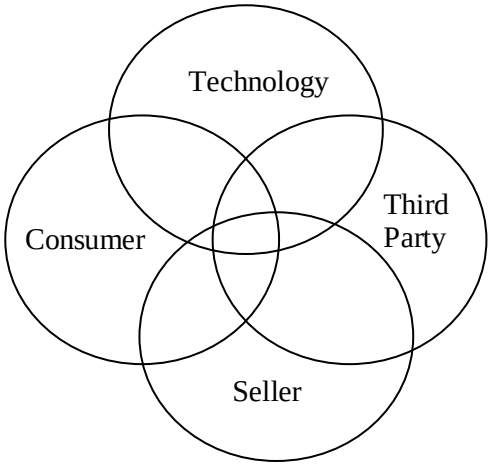

Figure 4.9: Four entities of e-commerce markets
(Kim et al., 2005, p.145)

These entities are the elements of trust formation model for B2C e-commerce of Kim et al. (2005). In this model, buyer is the trustor, seller is the trustee and technology and third party is the environment. Based on this model, trust formation can be characterized in six dimensions including "consumer behavioral, institutional, information, product, transaction, and technology" (Kim et al., 2005, p.146) as shown in Figure 4.10.

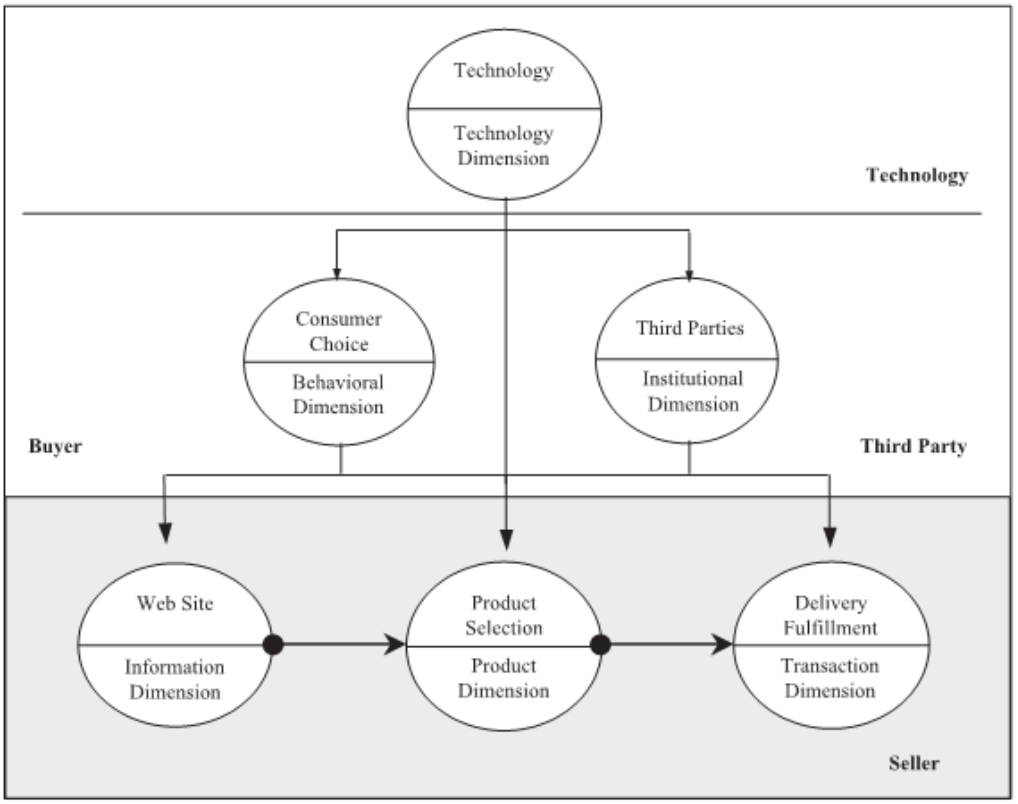

Figure 4.10: A process-oriented multidimensional trust formation model (Kim et al., 2005, p.146)

In this model, buyers, sellers and third party organizations are bounded via technology. Buyers are consumers and sellers are online sellers, suppliers or intermediaries. Third parties may be banks, alternative payment systems, institutions for online privacy protection, assurance services etc. For example TRUSTe is a nonprofit privacy seal program to build consumer trust in the Internet. The TRUSTe sign on websites means to consumers that the website clearly accepted to disclose customer information collection and propagation activities, and the disclosure is supported by third-party assurance services (Benassi, 1999).

In this model, a crucial part of e-commerce transaction, technology dimension has a layered structure composed of e-commerce technology infrastructure (hardware and software), e-commerce services, and e-commerce business applications (Shaw, 1999). Another part is generally performed by seller side which contains process stages that covers the necessary stages, a customer must go through to finalize an online transaction. The process stages contain three dimensions of this trust model which are the website/information, product and transaction dimensions. The website/information

dimension is related with the content of the e-commerce website and the customer has concerns about the information quality elements such as accuracy, completeness and credibility to trust the website. The product dimension is concerned with a particular product or service that customer wants to purchase. In this step, for a customer, the features of the product such as durability, brand equity, availability are important in terms of trust model. Next, in the transaction step, the issue is about delivery of the product or service and after-sales services. In this stage, there are some factors such as pricing, payment, promotions and delivery. These steps are necessary for customers to complete a transaction.

The six elements represent the exchange in the internet environment between the subjects including technology, buyer, seller and third parties in the Kim et al.'s model (2005). Table 4.2 shows the summary of the literature review which was done by Kim et al. about trust dimensions and sub dimensions.

Table 4.2: Definitions of trust dimensions, subdimensions and literature sources (Kim, 2005, p.148)

Trust dimensions	Definition	Subdimensions
Consumer-behavioral dimension	Individual attributes that affect the trusting behaviors of consumers	Demographic factors, experience, familiarity, individual culture, traditions, privacy, etc.
Institutional dimension	Third parties and other institutional attributes that shape institutional environment	Reputation, accreditation, authentication, approvals (e.g., eBay's feedback forum) legal requirements and authorities, etc.
Information content dimension	Attributes that determine the trustworthiness of web content	Accuracy, currency, completeness, nonbias, credibility, website brand loyalty, entertainment, usefulness, etc.
Product dimension	Attributes of a product that promote or deter online exchange	Durability, reliability, brand equity, quality, variety, customization, competitiveness and availability, etc.
Transaction dimension	Attributes that make online transactions trustworthy	Transparency, pricing and payment options, financial planning (complexity), sales-related service (refund policy, after sales, etc.), promotions, delivery fulfillment, etc.
Technology dimension	Information system and software attributes that enable the online exchange to be effective and safe	Quality of media transmission, interface design and contents, security, reversibility, digital certificate, public-key cryptography, authenticity,integrity,confidentiality, nonrepudiation, attributes of the system(benevolence, competency, predictability), etc.

4.4. E-commerce Trust Indicators

In e-commerce transactions not only personal information is shared with the websites, but also financial information is sent to the relevant participants take place in the transaction. This process, being mysterious for most of consumers, makes them to feel their information is not secured during the online transaction and causes consumers to be unwilling to share their information with e-commerce websites. Therefore, inclusion of trust features in e-commerce websites can make consumers to ensure that their personal and financial information is being protected. On the purpose of determination of these trust attributes, Che-Hussin, Macaulay, and Keeling (2003) specified trust dimensions by the help of investigation of trust models in the literature as shown in Table 4.3.

Table 4.3: Trust attributes and their group (Che-Hussin et al., 2003, p.103)

Trust dimension	**List of trust attributes**
Merchant-trust	Company name, company address, company e-mail, company telephone number, privacy policy, third party for secure transaction, third party for personal data protection, third party for website recommendation, third party endorsement, staff name, photo of staff, photo of premises. return policy, delivery policy, customer feedback
Content-trust	Website layout and structure, website navigation, website performance, presentation of content
Product-trust	Product brand, product price, product promotion, product handling
Process-trust	Order procedure, payment procedure, customer tracking facility, after-sales service

Moreover, they applied an online questionnaire and determined the ten top ranked trusts attributes which can be applied to the first page of e-commerce website in order to make the consumers to perceive the trustworthiness of the website. These ten attributes are stated in Table 4.4.

Table 4.4: Top ten trust attributes for merchant trust
(Che-Hussin et al., 2003, p.108)

Rank	Trust Attributes
1	Company Telephone Number
2	Company E-mail Address
3	Privacy Policy
4	Company Address
5	Third party for secure transaction (e.g. VeriSign)
6	Third party for personal data protection (e.g. Truste)
7	Consumer Feedback Form
8	Recommendation of the website by a third party (e.g. Shopsafe)
9	Specific staff name and contact number
10	Photos of staff

Pi, Li, Chen, and Chen (2007) in their study to determine the effects of e-commerce trust, they investigated these effects for two types of trust which are cognitive trust and affective trust (Figure 4.11). Cognitive trust is knowledge driven and related with the customer's confidence which depends on service provider's reliability. On the other hand, affective trust is related with perceived security and it is depended on the level of concern the partner shows. In this respect, while cognitive trust is objective, affective trust is subjective.

This research concluded that (Pi et al., 2007):

- Cognitive trust and affective trust are effective in making customers to continuously use the website.
- Cognitive trust affects the affective trust of online customer.
- Security of the transaction, website and company cognizance, previous Internet experience, and performance of navigation have an impact on cognitive trust of online customer.
- Transaction security affects affective trust of online customers.

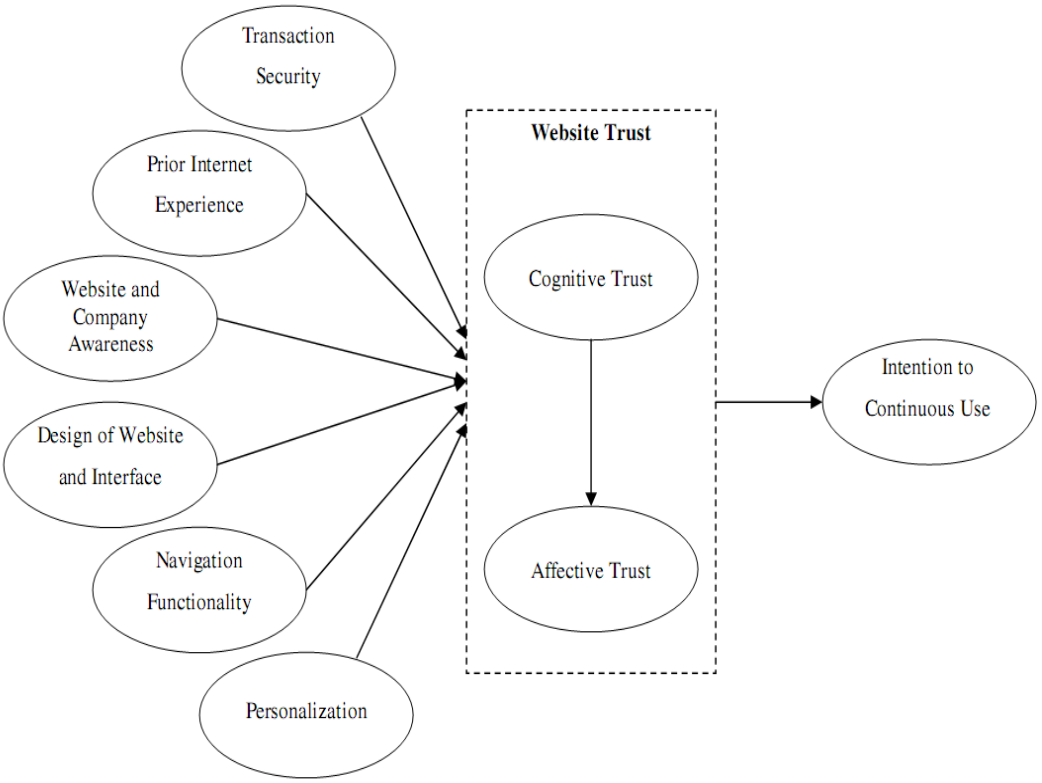

Figure 4.11: Effects of website trust (Pi et al., 2007, p.154)

Akhter, Hobbs and Maamar (2004) tested two hypotheses on 30 subjects by applying an interview. Their study found strong support for the first hypothesis which suggests that initial trust of consumer is directly related with the website interface of a company. According to them, an online business must communicate trust via website interface and show that they are trustworthy. The other hypothesis they tested, analyzed the relationship between security indicators in an online environment compared to social features such as convenience, ease of use, navigation. The respondents with non-technical background (70% of respondents) thought that security features are less important than the social features for intention to purchase. In contrast, the respondents with technical background (30% of respondents) care about the security indicators in a website such as security seals, logos and third party trust marks while shopping online. This study is also important since it shows technical background and educational level of the consumer is effective in the perception of a trusted website.

According to Fogg and Tseng (1999) the websites which are highly credible will be evaluated as having high levels of trustworthiness and expertise. In this sense, credibility elements are also good indicators for trustworthiness signs. Fogg et al. (2001a) discovered that banner ads which are not reputable had a greater negative effect on the credibility of website content than banner ads which are reputable. They also commented that author photographs with high quality will enhance credibility more than author bylines.

Fogg et al. (2001b) in their study determined 51 web elements which affect credibility perceptions of people and identified seven guidelines for creating credible websites. These guidelines are as below:

- Designing websites to reflect the "real world" look of the organization. For example, existence of physical address and employee photographs.
- Making websites simple and easy to use.
- Including signs of expertise such as listing an author's credentials and including citations and references.
- Including indicators of trustworthiness such as linking to outside materials and sources, stating a policy on content.
- Tailoring the experience of user and personalization such as type of ads shown on the page, showing whether visitor visited the website before.
- Avoiding overly commercial elements such as mixing ads and content.
- Avoiding amateur design errors such as typographical errors and broken links.

4.5. Privacy Issues in E-commerce

Privacy is a major issue for e-commerce which causes many customers reluctant about shopping online. Culnan (2000) defines privacy as "people's ability to control the terms under which their personal information is acquired and used" (p.20). Yang and Chiu (2002) bounded privacy by e-commerce and commented about privacy in e-commerce that a breach in information occurs when unauthorized aggregation, disclosure or personal information use exists in consequence of an online transaction. Culnan (2000) stated that privacy concerns were crucial reasons behind the fact that people do not go online and supply delusive information if necessary.

FTC (Federal Trade Commission) found in 1998 that most of online businesses "had failed to adopt even the most fundamental elements of fair information practices" (Culnan, 2000, p.8). Furthermore, the consumers who are satisfied with the control they have over the disclosure, usage and sell of their information by businesses are minority of the whole (Culnan & Armstrong, 1999).

There have been many studies which studied on consumers' attitudes towards online privacy depend on the situation or not (e.g. Sheehan, 2002; Ackerman, Cranor, & Reagle, 1999; Westin, 2003). Pollach (2006) categorized the consumer concerns according to the way of consumer information usage by merchant as data collection, unauthorized data sharing, secondary use of data, and improper access to customer's personal data. Westin divided individuals into three groups according to their concerns about privacy. These groups are privacy fundamentalists, privacy unconcerned, and privacy pragmatists as clarified below (Westin, 2003):

- Privacy fundamentalists are people who don't want to share their personal information online and have a high concern level about the use of personal information.
- Privacy unconcerned group is the group of people who do not care about their privacy and eager about sharing their personal information.
- The privacy pragmatists are less concerned about their privacy, in comparison with privacy fundamentalists.

There are also discrepancies exist in privacy concerns between different cultures and countries. Milberg, Burke, Smith and Kallman (1995) investigated whether the level of privacy concerns differs across different countries. As a result of the survey that was done for 30 countries, the level of privacy concern for personal information is different for countries. According to the results, Thailand has the lowest level, while Canada has the highest privacy concern level.

A study of Forrester in 2001 indicated that half of the consumers do not read privacy policies before they make a purchase online (Forrester Research, 2001). However, Swann and Rosenbaum stated that although most of consumers do not read the privacy

policy on a website, still their existence is necessary for building trust (Swan & Rosenbaum, 2004). Further study also showed that consumers trust the privacy policies which are more understandable (Milne, Rohm, & Bahl, 2004). For this reason, it is compulsory for companies to send privacy policies which are comprehensible and succinct to their customers. Yet, researches on this topic have shown that recent internet privacy policies are frequently too long and perplexing (McKnight & Chervany, 2002; Ant´ on et al., 2007; Ant´ on et al., 2004; Jensen & Potts, 2004).

Other than privacy policies, another element for merchants to build an acceptable level of trust is disclosure of intent related with the data collected. FTC emphasized five elements for Fair Information Practice as necessary elements of disclosure for online merchants (Yang & Chiu, 2002):

- Notice – The merchant has sent the consumer explicit notice former to gathering the consumers information.
- Choice – Consumer is acknowledged about the option for the possibility that his/her personal information will be used out of his/her initial intent.
- Access – Consumer has convenient access to the information which is stored about him/her.
- Security – Whether a statement about the protection of information exists while the information is being transmitted from consumer's computer to the merchant's server.
- Enforcement – Effective implementation of the above elements.

Beyond these principles there are also ways of enhancing privacy and trust level and achieving self-regulation without the concern of government intervene. According to Forman (2008), these ways are Internet seals of approval (ISA) programs and specialty groups which present guidance for organizations and businesses. For ISA, online merchants pay for a registration fee and open their privacy practices to be audited (Miyazaki & Krishnamurthy, 2002). By the subscription of ISA, merchants assure privacy and ensure a warranty of privacy to consumers. The two foremost providers of ISAs are TRUSTe and BBBOnLine. Miyazaki and Krishnamurthy (2002) proved in their study that online consumers' perceptions for online privacy were influenced

while a seal of approval exists on the site. Moreover, VeriSign, in spite of not being a seal of approval, also provides customers the same perceive of security and privacy as the two major providers (Patton & Josang, 2004). An example of specialty group in e-commerce in Turkey is ETID which stands for "Elektronik Ticaret İşletmeleri Derneği". Its English translation is "Electronic Commerce Enterprises Association". This association was established in 2007 by leading companies in the sector, in order to provide fulfillment of necessary legal regulations, to provide education and awareness for the target group related with the sector, for the achievement of the enlargement of the e-commerce sector in Turkey. Among its founders, powerful and pioneer brands of e-commerce sector, such as Teknosa.com, Ereyon.com.tr, and Genpa.com.tr, take place.

4.6. Security Issues in E-commerce

Security is a common matter for consumers and also for vendors in e-commerce. While consumers' concerns are related with the possibility of losing their financial information, e-commerce websites worry about financial loss in a result of possible attacks by hackers. The security problems arise from the vulnerabilities of the Internet which provide the infrastructure for e-commerce activities (Suh & Han, 2003).

Ackerman and Donald (2003) suggested a simplified model and categorized the problems related with e-commerce security as listed below:

- Security problems in end-user computer: For a customer, to use a website he/she must authenticate to the website. If the necessary security precautions are not taken, then hackers can capture the data related with the consumer and transaction. Some examples of these security problems are insufficient encryption of wireless networks at home (Borisov, Goldberg, & Wagner, 2001), e-mail viruses which can get the financial data of users from their local disk (Roberts, 2002) or from the users' keystrokes (Neyses, 2002).
- Security problems with the merchant front-end: E-commerce websites generally make caching for the transaction data of the latest orders when the consumers buy a product or service. The collection of these transaction data is a good source for hackers to perform credit card fraud activities. Therefore,

administrators of e-commerce websites have to preserve recent order data behind the firewall of the system and in a secure zone, not on the front-end (Winner, 2002).

- Security problems with the merchant back-end: Webservers have administrative connections to the back-end systems, that is, to the internal network of the companies. If the necessary security methods and techniques are not applied, hackers can steal customer information or more seriously, valuable corporate data.

The security problems in e-commerce are not limited to all of these, there are many security issues related with e-commerce exist. Although website administrators and software developers are trying to prevent the possible security gaps by various techniques, similar problems arise and the merchants come up against losing consumer trust and loyalty. Furthermore, these types of bad experiences also affect the further shopping tendencies and behaviors on the internet. According to CSI/FBI Computer Crime and Security Survey (CSI/FBI, 2004), although attacks to computer systems or abuse of these systems had a decreasing trend according to years since many security practices such as encryption of the data, access controls are being implemented by companies; average loss per firm and average loss per incidence were not decreasing.

According to Suh and Han (2003) security control for confidentiality, reliability, and information protection is a critical precondition for e-commerce mechanisms. Moreover, they categorized security controls in five headings as below (Suh & Han, 2003):

- Authentication: "Ensures that the trading parties in an electronic transaction or communication are who they claim to be" (p.136).
- Non-repudiation: "Neither of the trading parties should be able to deny having to participate in transaction after the fact" (p.136).
- Confidentiality: "Warrants that all communication between trading parties are restricted to the parties involved in the transaction" (p.137).
- Privacy protection: "Ensures that personal information about customers collected from their electronic transaction is protected from disclosure without

permission" (p.137).

- Data integrity: "Data in transmissions are not created, intercepted, modified and deleted illicitly" (p.137).

4.7. Legal Issues in E-commerce

The businesses which run online have to follow certain laws and regulations which government states and as the traditional businesses. This is crucial for enhancing trust in e-commerce transactions since people generally trust in formal authorities and laws and these elements are solvers in case of several problems occur in their online shopping as well as in daily lives and activities of people. According to Schneider (2007):

> Businesses that operate on the Web must comply with the same laws and regulations that govern the operations of all businesses. If they do not, they face the same penalties - including fines, reparation payments, court-imposed dissolution, and even jail time for officers and owners-that any business faces (p.301).

He also stresses that online businesses encounter with two extra complex issues they attempt to abide by the law. One of them is that, the Web enlarges the borders of the company beyond its traditional reach. That is, a traditional local business becomes an international business, when it sells online. Thus, the company can have to comply with more laws in comparison to a traditional business having a physical existence. Secondly, the online environment makes business communications faster and more efficient. In this case, customers' contacts with online merchants become more interactive and complicated in contrast to traditional merchants. In addition to this, online environment creates a network consisting of customers and other stakeholders who are more aware of related regulations, laws and ethical standards that any violation or breach of them can result in rigorous response from many parties.

According to Schneider (2007), the related legal elements which affect companies doing business online are as follows:

- Borders and jurisdiction: In traditional e-commerce, the boundaries are determined according to legal and cultural elements. The prevailing culture of the area affects the ethical rules and laws.

- Jurisdiction on the Internet: “The ability of a government to exert control over a person or corporation is called jurisdiction” (p.302). The description, building and claiming jurisdictions are harder than in online commerce then it is in traditional commerce. Governments who intend to exert laws regarding business conduct online have to build jurisdiction over that conduct.
- Conflict of laws: Owing to the fact that online businesses operate on larger markets which can lie many locations and states, they mostly follow the federal laws for guidance that can cause to troubles with state and local regulations.
- Contract enforcement in e-commerce: Contracts are both crucial for traditional businesses and online businesses. An implied contract can be generated by two or more parties which function as only one contact exist, even there is no contract exists written and signed. Each type of agreement or exchange between sides, even it is so simple, is a contract. There exist various kind of contract exist online such as warranty disclaimers, terms of service agreement, etc.
- Protection of intellectual property in online business: The businesses in online environment must prevent beguiling trade practices, inaccurate advertising claims, insult or product disparagement and ruining of intellectual property rights by the usage of unauthorized content on their websites. In an e-commerce website content, there may be different types of legal issues can take place. The most generic issues include the usage of intellectual property which is preserved by other party copyrights, patents, trademarks and service marks.

Additionally, the legal issues related with Turkish e-commerce and some regulations that have been done worldwide have been examined in Section 3.8 and Section 3.9.

4.8. Technologies and Techniques for Building Trust

The rapid progress in information and communication technologies makes people more depended on these developments to do the most of their daily activities. According to Lee and Rahman (2003), information systems have significant roles in society, and that causes the society to be more dependent on their proper and reliable operating and their availability.

As discussed in Section 2.3.8, there is a strong correlation between consumer trust and security aspects of an online business for the whole e-commerce transaction process. There are various technologies and techniques exist to provide secure e-commerce environment and so build consumer trust in the market today.

4.8.1. Encryption Techniques

VeriSign (2005) defined encryption as "the process of transforming information before communicating it to make it unintelligible to all but the intended recipient" (p.5).

The purpose of encryption is to provide the security of stored information and the security of information transfer. There are two basic types of encryption including symmetric key encryption and public key encryption. In symmetric key encryption, sender and receiver use the same key for encryption and decryption of message. On the other hand, in public key encryption, public key and private key are used for the process.

4.8.2. Secure Socket Layer (SSL) Technology

In online environment, the most widely used information technology to securely transmitting the information is Secure Sockets Layer (SSL). It was originally developed by Netscape Communications and it now became a universal standard on the Web for encryption of communication between website users and web servers.

SSL server certificates perform two functions to achieve e-commerce trust which are SSL server authentication and SSL encryption. Web browsers check the validity of server's certificate and public ID and whether they have been declared by a certificate authority such as VeriSign. SSL server authentication is important for e-commerce transactions when a customer wants to verify the website's identity before sending credit card information over the Web. Furthermore, SSL encryption enhances consumer trust, since it provides security for the customer private information and prevents the possible alterations while it is being transmitted from the user's browser to web server of the merchant.

4.8.3. Secure Hypertext Transfer Protocol (S-HTTP)

S-HTTP is an alternative to the HTTPS for the encryption of data transmitted over HTTP and is usually used with HTTP. It is not as popular as HTTPS since it was not completely accepted by web browser vendors such as Microsoft and Netscape. The difference between S-HTTP and HTTPS is that while SSL is encrypting all data being transmitted between client and server including IP level data, S-HTTP only encrypts HTTP level messages. That is, S-HTTP can provide the security of the individual messages to be sent instead of the whole data.

4.8.4. Trust Seals

In order to communicate trust in online environment, researchers recommend assuring reliable marks to create difference among online businesses (Ba & Pavlou, 2002).

Trust seals are also known as seals of approval or privacy seals. Certificate companies verify identity of a vendor, while seals of approval indicate that the website is a credible place and privacy policy and disclosure of the online business fulfill certain standards. TRUSTe, BBBOnline, WebTrust are examples for seal of approval and Table 4.5 shows a summary of privacy seals. A survey applied for Privacy and American Business showed that, 62% of consumers think that privacy seals would lessen their concerns related with privacy (Newsbyte, 2002). However, a common comment for web assurance seals is that they do not guarantee the quality of the product and only shows that a website conforms to whatever statements are done about their business practices (Moores & Dhillon, 2003).

Table 4.5: Summary of privacy seals (Moores & Dhillon, 2003, p.266)

	SEAL		
	TRUSTe	**WebTrust**	**BBBOnline**
HISTORY			
Date of Release	June 1997	September 1997	March 1999
Main developers	Electronic Frontier Foundation and CommerceNet Consortium	The American Institute of Certified Public Accountatnts (AICPA)	Better Business Bureau
Homepage	www.truste.org/	www.cpawebtrust.org/	www.bbbonline.org/
PRINCIPLES			
What is collected	X	X	X
How collected	X	X	X
Whether shared	X	X	X
Choice to opt out	X	X	X
Update/correct data	X	X	X
Ensure data security	X	X (if applying for Security principle)	X
Click-to-verify seal graphic	X	X	X
Oversight/complaint procedure	X	X	X
Feedback from online community	X	X	X
'Seed' user information	X		
PROCEDURE			
How reviewed	TRUSTe staff	CPA firm	BBBOnline staff
Min. reviews per year	1	2	1
Min. fee	$399 for revenues of less than US$500,000	Around $5,000	$200 for total sales of less than $1 million
Max. fee	$8999 for revenues of $2 billion or more	No limit	$6000 for total sales of $2 billion or more
Num. of recipients	More than 2000	Around 30	More than 750

4.8.5. Reputation Systems

According to online Oxford dictionary (Oxford, 2010) reputation is "the beliefs or opinions that are generally held about someone or something". In social networks, reputation is a quantity, which is reproduced from the based social network that can be seen by all members of the network (Freeman, 1979; Marsden & Lin, 1982). Reputation can be viewed as a communal measure of trustworthiness depending on the referrals or ratings from members in a group of people (Audun, Roslan & Colin, 2007).

Resnick et al. (2000) suggested three properties that reputation systems must have to run:

- Entities must live long, so that in every interaction, there is always an expectation for interactions that will occur in the future.

- The ratings for present interactions are received and propagated.
- The ratings for interactions occurred in the past must direct the decisions about present interactions.

4.8.6. Secure Electronic Transaction (SET)

One of the most effective protocols for e-commerce security is Secure Electronic Transaction (SET) protocol. Secure Electronic Transaction is a protocol which ensures confidentiality for information and provides safety for e-commerce transactions. The technology of SET protocol involves digital signatures, electronic envelops, public key encryption, and electronic security certificate and it provides three main functions by using these technologies including (Cheng, 2011):

- keeping the confidentiality of information – the payment information and customer account number should not be seen by others.
- providing integrity for payment of order data – consumer payment information should not be tampered.
- authentication of merchant and the cardholder – consumers and businesses should be authenticated to ensure their legal identity.

Further, it provides interoperability among different operating systems' and ensures they can work properly together (Lee & Rahman, 2003).

4.8.7. Privacy Policy

As discussed earlier in Section 4.5, privacy policy is critical for trust in e-commerce transactions. Although in 1998 only 14% of merchants had sent privacy policy to their customers, this number has raised and by 2000 80% had sent privacy policies (Pollach, 2006). The privacy policies posted by merchants should be concise, not too legal written, so that most of the consumers will read the policy statement (Nakra, 2001; Pollach, 2006). On the other hand, there is no way to understand whether the merchant acts appropriately with their privacy policy (Turner & Dasgupta, 2003). Therefore, it can be rather thought as a tool to gain consumer trust in e-commerce transactions.

Culnan (1999) stated that privacy policy is a good practice to make customers informed about their decisions and disclosure of their information. According to Swan and Rosenbaum (2004), in the top three elements which consumers seek for a trust relationship with merchants in online transactions are privacy policies, "about us" pages and "contact us" pages. They also found that consumers do not read privacy statements when they visit the website first, but they control whether it exists and it is visible.

4.8.8. Digital Certificate

According to VeriSign (2005): "A digital certificate is an electronic file that uniquely identifies individuals and Web sites on the Internet and enables secure confidential communications. Digital certificates serve as a kind of digital passport or credential" (p.5). When implemented with encryption, digital certificate assures security for all parties took place in an online transaction. It is issued by a trusted third party called as "Certification Authority" (CA) and includes the name of the subject, public key of the subject, a serial number, an expire and issuance date, digital signature of the CA and farther descriptive information (Laudon & Traver, 2007). CA is an entity issues certificates and public keys in a directory and the certificate is signed with private key of CA, so that its validity can be approved by using CA public key (Lee & Rahman, 2003). Though CA doesn't confirm the trustworthiness of the vendor, it basically authenticates the identity of the vendor (Grandison & Sloman, 2000). VeriSign and Entrust are the best of certification authorities which issue and manage digital certificates on the Internet.

4.8.9. 3D Secure Technology

3d-secure standard has been developed by VISA International to enhance performance and security of e-commerce transactions online while protecting consumers with authentication feature during online purchases. It is and XML-based protocol which provides an extra security layer for online credit card and debit card transactions.

According to Visa (2011),

> The 3d-secure protocol is a technical platform that includes technical specifications and requirements for issuers, acquirers, and merchants. In addition

> to utilizing the widely supported Internet technology Secure Sockets Layer (SSL) encryption to protect payment card information during transmission over the Internet, 3-D secure uses cardholder authentication to verify the parties involved in the transaction (p.13).

3d-secure facility does not only increase the confidence of buyer, but also merchant confidence in online purchases and decreases potential fraud and disputes.

Three payment programs exists based on 3d Secure which are Verified by Visa, MasterCard SecureCode, JCB J/Secure providing secure payments through Visa, Mastercard and JCB networks.

4.8.10. Watchdogs

Watchdogs are organizations or media representatives which detect vendors' violations or breeches of trust and declare these issues to warn consumers (Head & Yuan, 2001).

Watchdogs are independent organizations, centers or media representatives that identify vendors' violations or breeches of trust and publicize their actions to alert consumers (Head & Yuan 2001). Examples of watchdogs are EPIC (Electronic Privacy Information Center) and CDT (Center of Democracy and Technology).

4.8.11. Word of Mouth

Word of mouth, sharing individual experiences with other people, has an important effect on the trust level of customers about e-vendors. For consumers, it can be difficult to make an evaluation about trustworthiness of information and people mostly trust their friends and so their opinions before they make a decision. Furthermore, for consumers spending time and effort to read and examine security and privacy policies of websites may be seen as time consuming and unnecessary. According to Karvonen (1999), trust in people can be converted to online trust. For this reason, for consumers to see if an e-vendor has necessary security and privacy procedures by the help of trusted referees may be easier than exploring it themselves (Adams & Sasse 1999).

In an online environment, word of mouth communication can be realized through

virtual communities by sharing reviews, recommendations, etc. According to Bagozzi and Dholakia (2002), virtual communities are "mediated social spaces in the digital environment that allow groups to form and be sustained primarily through ongoing communication processes" (p.3). The members of virtual community trust each other by virtue of their membership in the community (Fukuyama, 1996). They can encourage trust and stickiness toward a website. Amazon.com and eBay have successful examples of virtual communities.

4.9. Trust and Web Design

For an e-commerce website, trust is essential to succeed in the market and web design is one of the most important factors affecting trust. It is thought that influential website design such as navigation quality and visual attractiveness of the website can build online trust (Gefen & Straub, 2003; Koufaris, 2002). Further, Garrett (2003) mentioned design dimensions consist of information design, navigation design, and visual design representing website usability.

Visual design is related with sentimental attractiveness, aesthetics and integrity of the website entire graphical look. It covers colors, photos, shapes, font type etc. (Garrett, 2003). Although Karvonen (2000) found a relationship between aesthetic beauty of a website and built trust, Wang and Emurian (2005) couldn't find any significant effect of website visual design on trust building. Besides, Tarasewich (2003) stated that website aesthetics is correlated with the enjoyment that user experienced.

Navigation design implies to the navigational layout which is used to enable or block users when they want to see different parts of a website (DeWulf, Schillewaert, Muylle, & Rangarajan, 2006).

According to McKinney, Yoon, and Zahedi (2002), "No matter how thorough the information content of a site is, a customer who has difficulty in searching and getting the needed information is likely to leave the site" (p.308). Yoon (2002) concluded that navigation design ensures website satisfaction and it will enhance trust level of consumers. Moreover, if websites are suitable with the culture of the users, then users have more potential to visit and stay on the website (Evers & Day, 1997).

Other design dimension, which is information design, is concerned with elements on the website that transfer correct or incorrect information about product or services to website users. Information is seen as a significant antecedent for trust (Flavián, Guinalíu & Gurrea, 2006; Wang & Emurian, 2005). Likewise, McKinney et al. (2002) stated that: "Customers dissatisfied with website information contents will leave the site without making a purchase" (p.308).

Yang, Hu and Chen (2005) suggested a web trust model for determination of web design elements to increase consumer trust. In this research, twelve trust features were stated which should be implemented by e-vendors to increase trust level of consumers. Table 4.6 shows these features and design dimensions.

Table 4.6: Trust inducing features for web design (Yang et al., 2005)

Dimensions	Trust Inducing Features
Graphic Design	1. Symmetric Framework 2. 3D dynamic and half screen size graphs 3. Well chosen and good shot photograph
Structure Design	4. Logical e-catalog and retrieval access 5. Easy to use navigation 6. Product instruction and purchasing guide 7. Without broken links and missing pictures
Content Design	8. Displaying its seals of approval or third party certificates 9. Involve some representative audio or video clips 10. Former buyer and feedback information
Social Cue or Signals Design	11. Synchronous communication media 12. BBS and Newsgroup

Nah and Davis (2002) also suggested thirteen principles in three main categories to build trust in online stores as seen from Table 4.7.

Table 4.7: Guidelines for integrating trust in online stores (Nah & Davis, 2002, p.107)

Category	Guideline
Content	• Provide Identity of Company • Disclose Performance History • Post a Clear Privacy and Security Policy • Provide Comprehensive & Accurate Product and Pricing Information • Disclose All Aspects of the Customer Relationship Up-front
Design	• Timely and Professional Web Site Design • Reliable and Security Technology • Informed Consent • Personalization
External Certifications and References	• Get Certifications from Third Parties • Use Third Party Services • Credible Third Parties' Referrals and Connectivity • Provide References from Past and Current Users

In another study, Lumsden and MacKay (2006) provided trust triggers which are website elements that affect consumer's evaluation of e-vendor trustworthiness (Table 4.8). They also classified these triggers as immediate trust triggers and interaction-based trust triggers. Immediate trust triggers are triggers which affect a consumer when he/she views a website, while interaction-based triggers affect consumers' trust evaluation as a result of dynamic interaction with the website (Lumsden & MacKay, 2006).

Table 4.8: Classification of trust triggers (Lumsden & Mackay, 2006, p.473)

Immediate Trust Triggers
Customer testimonials and feedback
Professional web design
Branding
Third party security seals
Up-to-date technology and security measures
Alternative channels of communication between consumers and the vendor
Clearly stated policies and vendor's information
Interaction-Based Trust Triggers
Ease of navigation
Consistent (professional) graphic design

4.10. Summary of the Chapter

In this chapter, related previous studies from literature regarding trust issues in e-commerce implementations have been discussed. Firstly, online trust was characterized by four elements according to Wang and Emurian's (2005) suggestion. Since consumer behaviors clarify consumers' reaction when they are engaging in online activities, consumer behavior models have been investigated as well as models related with consumer trust. From these models, it was found that there are many features in an e-commerce website which show the trustworthiness of the merchant and these features directly affect consumer trust, but in different forms and at different degrees according to the consumer's personal traits, experiences and other important features.

Also, the author stressed some e-commerce trust indicators which have been detected and concluded from many previous studies. Among the other issues that were discussed in this chapter are privacy and security issues which have been mostly issued as critical topics for e-commerce trust. Moreover, secure and reliable technologies such as SSL, S-HTTP etc. and several techniques which are crucial in terms of building consumer trust have been mentioned. The technologies defined work in different ways, but have a common goal which is providing security for the

communication channels from other parties involved in a transaction. Besides, usage of third party services which provide security seals and certificates, reputation systems for building up feedback mechanisms, word of mouth, stating a clear privacy policy are among the techniques to communicate trust online. In the last part, web design issues to enhance trust in e-commerce have been discussed. There are many factors influencing consumer trust in terms of web design such as professional web design, personalization, easy navigation, accurate product and price information and so on.

Chapter 5

Evaluation and Comparison of E-commerce Websites

5.1. Objective of the Chapter

The objective of this chapter is to make a comparison and evaluation of 30 chosen e-commerce websites in Turkey in terms of directly observable and non-subjective trust components that are derived from the literature review that has been done in the previous sections.

5.2. Data Collection

5.2.1. Selection of Ranking Provider and Determination of Sample Size

In order to determine the websites to be examined, the top 30 e-commerce websites in Turkey have been chosen. For the determination of the top websites, there are many ranking providers which use different types of ranking methods. In Table 5.1, there are some examples of website ranking provides.

Table 5.1: Some ranking providers (Lo & Sedhain, 2006, p.233)

Alexa Internet, Inc. http://www.alexa.com;
100BestWebsites, http://www.100bestwebsites.org;
BtoBOnline NetMarketing 100,
http://www.btobonline.com/netMarketing200/2003;
ComScore Media Metrix, http://www.comScore.com;
Nielsen, http://www.nielsen-netratings.com
PC Magazine Top Websites,
http://www.pcmag.com/article2/0,1759,1554010,00.asp
Ranking.com http://www.ranking.com;
Time's, http://www.time.com/time/2005/websites;
Websearch, http://www.websearch.com;
Web100, http://www.web100.com;
World Hottest Sites, http://www.worldhot.com.

According to Lo and Sedhain (2006), ranking methods fall into three categories including activity-based, reference-based and opinion based criteria. They are briefly explained as below:

- Activity-based criteria are also known as traffic-based ranking criteria. This type of ranking is the most well-known and objective one among other types. The websites are ranked based on the activity volume on the site. That is, the website which has the maximum traffic is ranked as 1st. Some examples of this method are Alexa, Nielsen, and Ranking.com. The measures of website traffic are reach, frequency and duration as defined below (Lee & Leckenby, 1998):
    - "Reach: percentage of unique visitors who visited a website at least once during a measurement period. This indicates the breadth of audience coverage.
    - Frequency: average number times that a visitor (those who visited at least once) visits a website during a measurement period. This indicates the likelihood of repeat visits.
    - Duration: average time (say in minutes) that visitors spend on a website. This indicates the 'stickiness' of the website" (p.234).
- Reference-based criteria make the ranking of websites depending on the frequency of website's citation by others for a definite search topic. That is, the more the website is cited by other websites, the higher the rank will be. Google page ranking method is a well-known example of this approach.
- Opinion-based criteria base the views of panel members and thus this approach is subjective. PC Magazine's top 100 Web sites, World's hottest sites are some examples of this method.

In this study, an example of activity-based ranking, the ranking of www.alexa.com (Alexa, 2012) is used. The reasons behind this selection are various and stated as below:

- It is a well-known ranking website and uses a non-subjective and reliable method which bases total traffic for ranking.
- Amazon Web Service, which is a famous and credible company, is the parent company of it.

- Alexa data is cost-free and commonly available.
- Alexa data is always up-to-date.
- Toolbar of Alexa is used by a large user base.

Also, in many previous studies, Alexa data have been used. Grier et al. (2009) selected top 20 Alexa websites and browsed them to justify that their suggested web browser implementation, Gazelle, which is "a secure web browser constructed as a multi-principal OS" (p.1), does not bring rendering problems. They also tested the prototype on the top 100 Alexa websites to make a forecast about the number of processes created for different websites. Further, in order to explore how online companies can increase customer trust with the usage of Trusted Third Parties (TTPs) and privacy statements, Palmer, Bailey, Faraj and Smith (2000) used the length of time a website was on the Internet, the number of links into a website, the size of a firm's web site (number of static web pages), website traffic and user ratings data from Alexa. Sullivan and Matson (2000) also used top 50 most popular websites according to Alexa statistics in order to make a content accessibility compliance audit on the websites. Besides, Ratanaworabhan, Livshits, and Zorn (2009) suggested a runtime system for the detection and prevention of security attacts and tested the system on the top 150 highly-visited websites of Alexa. Moreover, Hackett, Parmanto, and Zeng (2003) examined the effects of technology on accessibility for disabled people on chosen top 500 ranked websites obtained from Alexa and compared them with government websites by using Internet Archive's Wayback Machine.

After which ranking provider to use has been decreed, the next question is that: "What should be the optimum number of websites to choose for the analysis?" In their study, Lo and Sedhain (2006) suggest that the ranking lists which use similar ranking methods show a particular degree of affinity and states that: "Generally speaking, most lists agree on who are the top 3 sites, and also show a fair degree of agreement for lists of size 30 or more. But it is very difficult to demonstrate the reliability of ranking lists of size in the range of 10s or 20s" (p.238). According to this suggestion, minimum number of items in the ranking list should be 30 to show reliability in the ranking. Therefore, the top 30 websites according to Alexa ranking are chosen to be examined

in terms of trust criteria concluded from literature review.

In the next section, how the evaluation criteria are determined from the literature review is discussed.

5.2.2. Selection of Evaluation Criteria

As discussed in Chapter 4, there are several trust and consumer behavior models and theories exist which address to trust issues in e-commerce. Also, there are many trust indicators, privacy and security issues, secure and reliable technologies related with consumer trust were discussed in many previous studies. From the literature review done in previous sections, the necessary criteria are determined and the basic listing is done in Section 5.2.2.1 and the more specific listing is done in Section 5.2.2.2 by the derivation of the basic listing.

5.2.2.1. Findings from Literature Review

The basic listing that is done in this section is determined according to the points listed below:

- Basically, the directly observable and non-subjective trust components from the literature review are included.
- The items which refer to general concepts such as security, privacy, web design, and service quality are included as findings to be added to the specific listing in Section 5.2.2.2.
- The items such as personalization, navigation and ease of use which are fully unobservable and subjective are not included to the listing.
- The items, which may involve subjective items as well as having an objective aspect, are included.

5.2.2.1.1. Findings on Trust and Trustworthiness

In Section 2.3.1, the relationship between trust and trustworthiness has been examined. The study of Nielsen et al. (2000) which advices issues to online companies in order to communicate trustworthiness has been also mentioned. The trust elements, effective in the communication of trustworthiness, which are selected as non-subjective and

directly observable on the website are as listed below:

- Easily findable company information
- Clear and friendly privacy
- Alternative ways of ordering
- Reach to supporting people through email or live chat

5.2.2.1.2. Findings on Macro Level and Micro Level Trust

In Section 2.6.2, the elements of macro level trust and micro level trust have been examined. According to model of Wang (2008), one of the components, support systems which are related with payment systems, logistics, credit evaluation and third party certification system, must have the characteristics given below:

- The presence of the online credit cards and their compatibility to other platforms
- Compatibility of credit evaluation system to the long-distance transaction of e-commerce
- Third party certification

5.2.2.1.3. Findings on Initial Trust and Repeat Trust

Referring to the Section 2.6.3, initial trust and repeat trust in e-commerce consumer trust have been examined. According to the study of Kim and Tadisina (2005), the factors for initial trust are:

- Company profile
- Supporting organization
- Website quality

According to Montoya-Weiss et al. (2003), in the development of initial trust, to overcome information asymmetry, the e-commerce websites should send the necessary intrinsic signals including:

- Security
- Website design
- Full description of goods

According to Yoon et al. (1993), they should also send the required extrinsic signals including:

- Perceived reputation: According to Casalo et al. (2007) perceived reputation in online environment has two elements which are,
  - Reputation ratings
  - Online customer feedbacks

5.2.2.1.4. Findings on E-commerce Quality and Success Metrics

In Section 3.7, the e-commerce quality and success metrics have been discussed.
Out of the service quality elements of Parasuraman et al. (1985), empathy is related with the existence of e-mail, chat rooms, bulletin boards and mailing lists (Chen, 2001) on the website. The factor is added as a factor to be examined.

The factors which Mary and Mary (2003) stated,

- Website design
- Privacy/security
- Customer service

are also metrics which can be observable, but they are general terms. So, referencing to them is useful for the support of other specific criteria related with them.

The study of Jones and Degrow (2011) is important in terms of e-commerce trust elements, since many reviewed studies stress the importance of website design in order to build trust and successful and qualified websites are mostly the ones which are trusted; since people will not engage in transaction, if they don't trust the website.

The related design practices to be added to the criteria list:

- Link to about us section in the homepage
- Link to information for investors in the homepage
- Link to contact information in the homepage
- Company logo in the top left of the page
- Link to a privacy policy in the homepage
- Link to a legal information or terms of use page in the homepage

- Link to a sitemap in the homepage
- Search box located in the upper right of the screen in the homepage
- An image (either clickable or not) as the focal point of the page in the homepage.

5.2.2.1.5. Findings on OECD Guidelines

In Section 3.9, OECD (1999) guidelines for consumer protection in e-commerce have been discussed. Related criteria to be added to the list are as below:

- Fair business and marketing practices in e-commerce such as having accurate and clear information about,
  - business identity (e.g. legal name of the business, geographic address of the business, email address or other contact information, any relevant government registration or license numbers)
  - goods and services being sold
  - terms, conditions, warranties, costs and other issues related with transaction
  - proper and competent resolution of disputes, location of the business, service of legal process, business's easy and effective communication with customer
- Security in payment processes
- Privacy protection

5.2.2.1.6. Findings on Models and Theories related with Consumer Behavior and Trust

Although Theory of Reasoned Action, Theory of Planned Behavior, Social Exchange Theory, Consumer Behavior Model, Theory of Perceived Risk, Technology Acceptance and its extended models are important in terms of explaining consumers' purchase decisions and trust in online environment, the elements of these theories are not observable and cannot be applied on the chosen websites in this study.

When the online consumer behavior models are examined, the concluded criteria to be observed on the websites are as below:

1) EC Consumer Behavior Model (Turban & King, 2003)

- The effect of vendors' controlled systems
  - Technical Support: Web design, intelligent agents
  - Customer Service: FAQs, email, call centers, one-to-one customer service

2) Framework of Online Consumer Behavior (Chan et al., 2003)

- The effect of medium characteristics
  - Web Design
  - Security
- Merchant and Intermediary Characteristics
  - Service Quality
  - Privacy and Security Control

3) The process-oriented multidimensional trust formation model (Kim et al., 2005)

- Third party dimension
  - Banks
  - Alternative payment systems
  - Institutions for online privacy protection
  - Assurance services
- Technology dimension
  - Interface design and contents
  - Security
  - Digital certificate
- Public-key cryptography, authenticity, confidentiality

5.2.2.1.7. Findings on E-commerce Trust Indicators

As discussed in Section 4.4, the inclusion of trust features in e-commerce websites can make consumers to ensure that their personal and financial information is being protected and hence it contributes to communicate trust.

From the trust indicators discussed, the observable trust components are resulted as below.

1) The trust attributes and dimensions Che-Hussin et al. (2003) specified by the help of investigation of trust models in the literature.

- Merchant-trust dimension:
  - Company name, company address, company e-mail, company telephone number
  - Privacy policy, third party for secure transaction, third party for personal data protection, third party for website recommendation, third party endorsement
  - Staff name, photo of staff, photo of premises
  - Return policy, delivery policy, customer feedback
- Process-trust dimension:
  - Order procedure
  - Payment procedure

2) Top ten trust attributes for merchant trust (Che-Hussin et al., 2003)

- Company telephone number
- Company e-mail address
- Privacy policy
- Company address
- Third party for secure transaction (e.g. VeriSign)
- Third party for personal data protection (e.g. Truste)
- Consumer feedback form
- Recommendation of the website by a third party (e.g. Shopsafe)
- Specific staff name & contact number
- Photo of staff

3) Effects of Website Trust (Pi et al., 2007)

- Design of website and interface
- Transaction security

4) Study of Akhter, Hobbs and Maamar (2004)

- Security seals, logos and third party trust marks

5) Study of Fogg et al. (2001b)

- Designing of web sites: existence of physical address and employee photographs.
- Linking to outside materials and sources
- Stating a policy on content

5.2.2.1.8. Findings on Privacy Issues in E-commerce

As discussed in Section 4.5, privacy is a critical issue for e-commerce since most of the customers are reluctant about shopping online due to the privacy concerns. In Section 2.3.6, the relationship between privacy and trust has been also discussed. Many studies indicated that privacy issues affect consumers' trust in online environment. The observable and non-subjective trust components related with privacy issues in the review literature are stated as below.

1) Study of Swan and Rosenbaum (2004)

- Presence of privacy policies

2) Study of Milne, Rohm and Bahl (2004)

- Understandable, comprehensible and succinct privacy policies

3) Elements for Fair Information Practice as necessary elements of disclosure for online merchants (Yang & Chiu, 2002)

- Access, convenient access to the information which is stored
- Security, existence of a statement about the protection of information during the transmission between merchant and consumer

4) Study of Forman (2008)

- Internet seals of approval (ISA) programs and specialty groups to guide online businesses.

5.2.2.1.9. Findings on Security Issues in E-commerce

As mentioned in Section 4.6, security is a common matter for consumers and also for vendors in e-commerce. Security has been stated as an important factor for consumers' trust in many studies and as discussed in Section 2.3.8, there is a strong correlation between consumer trust and security aspects of an online business for e-commerce transactions. So, inclusion of security components to the criteria list is necessary for the right evaluation of the websites.

1) CSI/FBI Computer Crime and Security Survey (CSI/FBI, 2004)

- Encryption of the data
- Access controls

2) Security Controls (Suh & Han, 2003)

- Authentication
- Non-repudiation
- Confidentiality
- Privacy protection

5.2.2.1.10. Findings on Legal Issues in E-commerce

As stated in Section 4.7, legal issues are so effective in achieving consumer trust in e-commerce transactions. The observable trust criteria derived from the literature review are listed as below.

1) Study of Schneider (2007)

- Contract enforcement in e-commerce (e.g. distance sale agreements)
- Protection of intellectual property in online business (e.g. party copyrights, patents, trademarks and service marks)

5.2.2.1.11. Findings on Technologies and Techniques for Building Trust

The already mentioned technologies and techniques for building trust in Section 4.7 provide a secure e-commerce environment and hence build consumer trust in the online environment. The observable trust criteria related with these technologies and techniques are stated as below.

- Secure Socket Layer (SSL) technology
- Secure Hypertext Transfer Protocol (S-HTTP)
- Trust seals
- Reputation systems
- Secure Electronic Transaction (SET): Digital signatures, electronic envelops, public key encryption, and electronic security certificate.
- Concise, not too legal written privacy policy (Nakra, 2001; Pollach, 2006)
- Existence of privacy policies, "about us" pages and "contact us" pages (Swan and Rosenbaum, 2004)
- Digital certificate (Grandison & Sloman, 2000)
- 3d-secure technology
- Word of mouth: Existence of virtual communities by sharing reviews, recommendations (Adams & Sasse 1999; Bagozzi & Dholakia, 2002)

5.2.2.1.12. Findings on Trust and Web Design

As discussed in 4.8, successful website design is crucial for trust in online environment. The observable trust criteria concluded from the literature review related with web design is listed as below.

1) Study of Flavián et al. (2006) and Wang and Emurian (2005)

- Information Design: Information content

2) Trust Inducing Features for Web Design (Yang et al., 2005)

- Structure Design
  - Logical e-catalog and retrieval access
  - Product instruction and purchasing guide
- Content Design

- Displaying its seals of approval or third party certificates
- Involving some representative audio or video clips
- Former buyer and feedback information

- Social Cue or Signals Design
  - Synchronous communication media

3) Guidelines for integrating trust in online stores (Nah & Davis, 2002)

- Content
  - Providing identity of company
  - Disclosing performance history
  - Posting a clear privacy and security policy
- Design
  - Timely and professional web site design
  - Reliable and security technology
- External certifications and references
  - Get certifications from third parties
  - Use third party services
  - Credible third parties' referrals and connectivity
  - Provide references from past and current users

4) Trust Triggers (Lumsden & Mackay, 2006)

- Immediate trust triggers
  - Customer testimonials and feedback
  - Professional web design
  - Third party security seals
  - Up-to-date technology and security measures
  - Alternative channels of communication between consumers and the vendor
  - Clearly stated policies and vendor's information
- Interaction-based trust triggers
  - Consistent (professional) graphic design

5.2.2.2. List of Selected Criteria

In Section 5.2.2.1, the trust factors are listed according to the literature review done in the previous sections. The criteria list in this section is derived from this list according to the considerations below:

- The criteria which are common or correspond to the same meaning are summed up in one criterion.
- The items which refer to general concepts such as security, privacy, web design, and service quality are added to the listing as their observable equivalents concluded from the literature review.
- The items which may involve subjective items as well as having an objective aspect are evaluated as their presence on the website and added as criteria. For instance, the element "easily findable company information" is included to the criteria list as "the presence of company information on the website".

- The concepts which are closely related with each other are grouped in one criterion. For example, reputation systems, customer feedback forum, and customer testimonials are grouped and named as "customer feedback mechanisms". Another example, third party support has a large extent which includes third party for personal data protection, internet seals of approval (ISA) programs, specialty groups to guide online businesses, third party for website recommendation, third party endorsement, supporting organizations/institutions/assurance services, credible third parties' referrals and connectivity.

- The concluded criteria set are divided into 8 tables logically to give a clearer understanding as shown below.

Table 5.2: Web design elements for consumers' trust

Web Design Elements
E-catalog
Credible third parties' referrals and connectivity
Representative audio or video clips
Link to about us section in the homepage
Link to information for investors in the homepage
Link to contact information in the homepage
Link to a privacy policy in the homepage
Company logo in the top left of the page at the homepage
Link to a sitemap at the homepage
Link to a legal information or terms of use page at the homepage
Search box located in the upper right of the homepage
An image (either clickable or not) as the focal point of the home page
A policy on content
Disclosing performance history (e.g. count of total visitors)
Linking to outside materials, sources (e.g. news, magazines, governmental websites etc.)

Table 5.3: Customer supportive elements for consumers' trust

Customer Supportive Elements
Synchronous communication media (e.g. intelligent agents, live chat)
Call center support
FAQs
E-mail support
Customer feedback mechanisms (reputation systems, customer feedback forum, customer testimonials)
Links to virtual communities for reviews, recommendations (e.g. Facebook, Twitter)

Table 5.4: Privacy control elements for consumers' trust

Privacy Control Elements
Privacy policy
Third party support (Third party for personal data protection (e.g. BBB Online, Truste), internet seals of approval (ISA) programs, specialty groups to guide online businesses (e.g. ETID) , third party for website recommendation, third party endorsement (e.g. Shopsafe), supporting organization / institutions / assurance services, credible third parties' referrals and connectivity)

Table 5.5: Security control elements for consumers' trust

Security Control Elements
Security policy
Security seals, logos and third party trust marks
Digital certificates/SSL/third party for secure transaction (e.g. VeriSign)
3d-secure technology

Table 5.6: Legacy control elements for consumers' trust

Legacy Control Elements
Contract enforcement in e-commerce (e.g. distance sale agreements)
Protection of intellectual property in online business (e.g. copyrights, patents, trademarks and service marks)

Table 5.7: Consumer informative elements related with company for consumers' trust

Consumer Informative Elements Related with Company
Company name (legal name of the business)
Company physical address
Company e-mail address
Company telephone number
Relevant government registration or license numbers
Specific staff name & contact number
Photo of premises
Photo of staff
Contact us page
About us page

Table 5.8: Consumer informative elements related with shopping for consumers' trust

Consumer Informative Elements & Other Issues Related with Shopping
Return policy
Delivery policy
Order procedure
Payment procedure
Cost information including taxes, shipping and product costs
Information about resolution of disputes/legal process
Product information/instruction
Alternative ways of ordering
Online payment by credit card
Alternative payment systems

5.3. Evaluation and Comparison of Top Websites in Turkey

Top 30 e-commerce websites in Turkey have been chosen according to the statistics provided by Alexa.

5.3.1. Selection of Top 30 E-commerce Websites in Turkey

The websites have been chosen from Alexa top list for Turkey. The sites in the top sites list are ordered by their 1 month Alexa traffic rank. The list below was produced for the 25th of August, 2012. The first month rank is calculated by using a combination of average daily visitors and page views over the past month. The site with the highest combination of visitors and page views is ranked #1. The main characteristics of the chosen websites are as below:

- Since the focus of this study is consumers, the list includes B2C and C2C websites.
- The websites in which online shopping can be done by online payment are chosen.
- The websites, which are operating and available, are chosen.
- There are many different types of websites in the list according to their way of selling.
- The C2C websites in the list are Sahibinden.com, GittiGidiyor.com, Ebay.com
- The private shopping websites in the list are: Trendyol.com, Markafoni.com, Limango.com.tr, Morhipo.com, Vipdukkan.com, Marcamarca.com.tr, and Daybuyday.com.
- The retailing firms in the list, which have also their physical shops, are Vatanbilgisayar.com, Teknosa.com.tr, Gold.com.tr, Bimeks.com.tr, Istanbulbilisim.com.tr, sell technological products.
- The multi-category retailers which only run online are Hepsiburada.com, Sanalpazar.com, Hizlial.com, Amazon.com, and Indirdik.com.
- There are also service companies in the list. Airline companies which sell tickets online are Flypgs.com, Turkishairlines.com. There is also a website, Etstur.com for booking and sell of holiday packets, tours, hotel reservations. Further, Biletix is a website which sells online tickets for concerts and other activities.
- Kitapyurdu.com is a bookstore and Dr.com.tr is a book and gift shop.
- There are also online buying group websites in the list including Sehirfirsati.com, Bonubon.com, and Grupanya.com.

Table 5.9: Top 30 e-commerce websites in Turkey according to Alexa's statistics

1- Sahibinden.com	11- Amazon.com	21- Etstur.com
2- GittiGidiyor.com	12- Flypgs.com	22- Istanbulbilisim.com.tr
3- Hepsiburada.com	13- Morhipo.com	23- Kitapyurdu.com
4- Trendyol.com	14- Turkishairlines.com	24- Bonubon.com
5- Markafoni.com	15- Teknosa.com.tr	25- Indirdik.com
6- Vatanbilgisayar.com	16- Vipdukkan.com	26- Daybuyday.com
7- Sanalpazar.com	17- Gold.com.tr	27- Grupanya.com
8- Limango.com.tr	18- Sehirfirsati.com	28- Biletix.com
9- Ebay.com	19- Marcamarca.com.tr	29- Lcwaikiki.com
10- Hizlial.com	20- Bimeks.com.tr	30- Dr.com.tr

5.3.2. Comments on the Selected Criteria

1) **E-catalog:** "It is an innovative and effective technique to promote or advertise the product range of a company. It is a Digital Brochure of information on products (with images and salient features mentioned) that are offered by an organization" (Fibre2fashion, 2012). This element does not exist in most of the websites, since this item is not suitable for most of the website type in the list. For example, multi-category retailers have many numbers of products and this fact makes it meaningless to prepare an e-catalog. Further, since content of the website (meaning that products) changes frequently in private shopping websites, this also makes e-catalogs useless in these websites. Out of 30 websites, only 2 of them including Teknosa and Lcwaikiki, which have also physical shops, put an e-catalog on their site.
2) **Representative audio or video clips:** These types of video clips exist in most of the websites in the list as television advertisements, or video clips which are especially prepared for digital media. They are generally located in the "about us" section of the websites and almost half of them have this element.
3) **Link to about us section in the homepage:** 80% of the websites in the list meet this criteria and it is usually named exactly as "about us". There are also some websites which link to this section by the name "company profile" such

as IstanbulBilisim.com.

4) **Link to information for investors in the homepage:** This criterion is related with existence of "investor relations" part in the website. The websites which belong to publicly traded companies have the probability to meet this criterion and the websites Amazon, Groupon, Turkishairlines and Bimeks satisfy it with the links to investor information located in their homepages.
5) **Link to contact information in the homepage:** This criterion is important for consumers since it provides them to contact with the business. It also enhances the trust feeling of consumers toward the website, since it can make them believe that there is a real organization exists behind the website. This design element is satisfied by all the websites except one of the leader websites in the world, Amazon.com.
6) **Link to a privacy policy in the homepage:** The importance of privacy policies has already been mentioned in the document in Section 4.5 and Section 4.8.7. This design criterion is satisfied by 80% of the websites in the list and it is usually applied as a master page element.
7) **Company logo in the top left of the page:** According to Baratis, Petrakis and Milios (2008), "logos and trademarks are important characteristic signs of corporate Websites or of products presented there" (p.1195). The study of Hu and Bagga (2003) shows that logos and trademarks constitute 32.6% of all images on the Web. This design criterion "company logo in the top left of the page" of Jones and Degrow (2011) is satisfied by most of the websites in the list. Besides, there are also two exceptions including Vipdukkan.com in which company logo is located on the top middle of the page and Etstur.com which locates the logo on the top right of the page.
8) **Link to a sitemap at the homepage:** For most of the times, users get bored with not finding what they are looking for on a website. Nielsen (1998) stated that, users are unable to find certain information they are looking for 42% of the time. In this regard, sitemaps are useful and important for users to easily navigate on the website and find what they are searching for. Out of 30 websites, 7 of them meet this criterion. The minority in the number for the top websites maybe show that this practice is outdated.

9) **Link to legal information or terms of use page at the homepage:** As stated in Section 4.7, legal issues are crucial in e-commerce websites since they are valuable tools in terms of enhancing consumer trust toward the website. According to the findings of this study, almost half of the websites meet this criterion on their homepage.

10) **Search box located in the upper right of the homepage:** This design criterion differs in the websites investigated in this study. All of the private shopping websites and buying group websites do not put a search box on the website since it is not suitable for their operating style. Because, the products/services are put on the website by daily campaign belonging to specific brands/service companies chosen. Further, all of the multi-category retailing websites put search box in the homepage, owing to fact that it can be difficult and time consuming for a customer to find what he/she is looking for. Other than these, some of the webpages locate search box on the left top of the page like Gittigidiyor.com, Sahibinden.com, and eBay.com. Besides, some of them put it on the right top of the page as it is suggested in this criterion like Vatanbilgisayar.com and Gold.com.tr. In contrast, some of them put it in the middle of the page such as Sanalpazar.com, Ucuzu.com, and Amazon.com. As a result, the element is satisfied by 33% of the examined websites.

11) **An image (either clickable or not) as the focal point of the home page:** "A focal point is a prominent section on a web page that we want to guide the user's attention to. The focal point is the eye-catching centerpiece of the page; it stands out and is distinct than other components" (Moradi, 2011).

    A focal point example from one of the examined websites "Gittigidiyor.com" is shown in circle in Figure 5.1. The site chooses the image of the discounted product of the day as the focal point of the homepage.

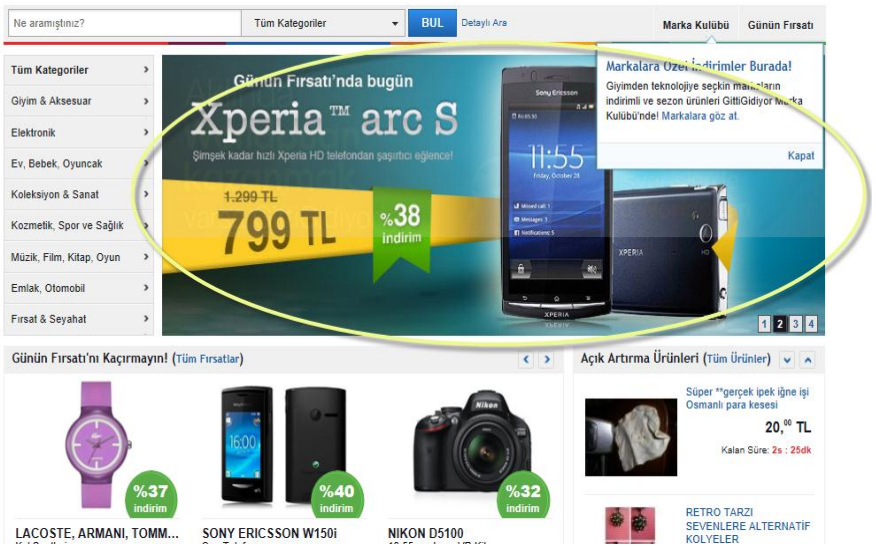

Figure 5.1: Homepage of the website Gittigidiyor.com (Accessed on 01st of September, 2012)

This element is seemed to be applied by all of the websites that have been examined which makes it an important design practice and mediately an important consumer trust factor.

12) **A policy on content:** Putting a policy on content is important for websites since it includes statements about unauthorized usage of the website content and it is a valuable trust indicator as stressed in Section 4.4. While some of the websites put an easily noticeable policy content on the website, some of them can declare it in terms of use page (e.g. Gittigidiyor.com, Vipdukkan.com), or in a page which has a similar purpose. Out of 30 websites, 20 of them meet this criterion.

13) **Disclosing performance History:** This element is evaluated as the existence of past performance information of the website on the website content. For instance, in Figure 5.2, the milestones of Sahibinden.com located in the about us page, is an example of performance history. In addition to this, the information, shown related with the total number of visitors of a website in a certain time range, is included as a performance history. Again, out of 30 websites, 20 of them meet this criterion.

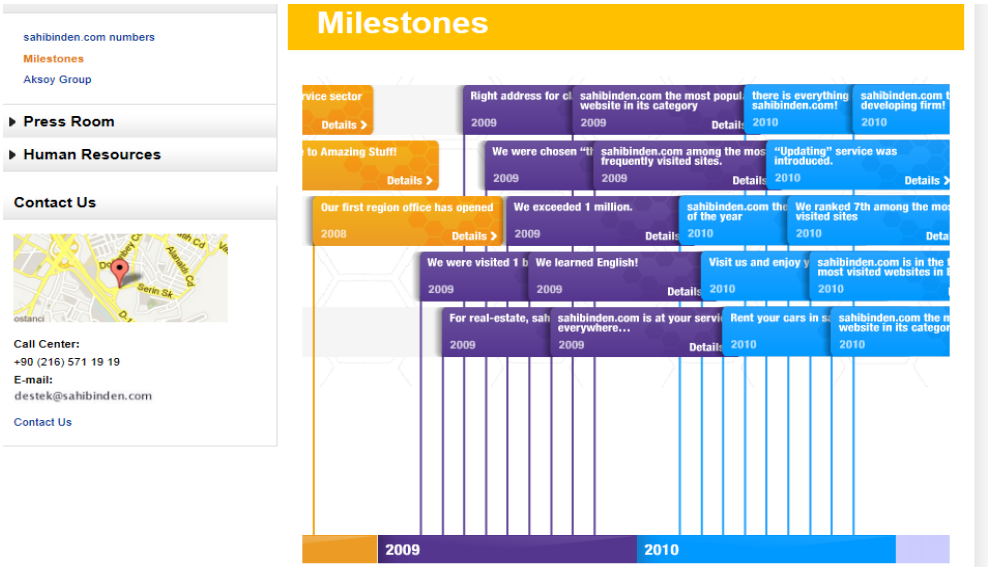

Figure 5.2: An example for performance history on Sahibinden.com (Accessed on 01st of September, 2012)

14) **Linking to outside materials, sources:** This criterion is evaluated as to make useful linking to outside materials, sources such as news, magazines, articles, and governmental websites. Links to advertisements or parent companies are not included. Most of websites put links for news related with their company in newspapers or magazines on their website. All of them are evaluated as meeting this criterion. 43% of the examined websites satisfy the condition.

15) **Synchronous communication media:** This criterion is related with the existence of a synchronous communication media such as an intelligent agent or live chat. Jennings and Wooldridge (1998) define an intelligent agent as: "a computer system that is capable of flexible autonomous action in order to meet its design objectives" (p.4). By flexible, it is meant that the system must be responsive, proactive and social. For e-commerce websites, intelligent agents can provide many activities including need identification, product brokering, merchant brokering, negotiation, payment and delivery, service and evaluation (Pivk & Gams, 2000). Besides, the usage of intelligent agents in e-commerce websites is not common. The websites subjected to this study also do not have intelligent agent capability. Furthermore, online chat being also a synchronous communication way is also included for this criterion. Most of the websites examined do not have online chat capability. The websites which have this service are Sanalpazar.com, Ebay.com and

Amazon.com. An image example, showing the online chat capability belonging to the Sanalpazar.com homepage, is shown in Figure 5.3.

Figure 5.3: An example of online chat visual element on Sanalpazar.com (Accessed on 01st of September, 2012)

16) **Call center support:** Call center support is usually provided by e-commerce websites. Out of the examined 30 websites, 21 of them have this capability. In contrast, some websites do not provide this service. For example, Gittigidiyor.com does not provide call center support, since they believe that in order to provide qualified and fast service for a million of customers, it is necessary for them to make a detailed study at the back side (Gittigidiyor, 2012). Since the study for the solution of the problems takes time, they give this service by a messaging system.
17) **FAQs:** FAQs which is an abbreviation for "Frequently Asked Questions" is an important part of websites, since it provides answers for possible questions of customers. As its Turkish corresponding, it is "SSS". Most of the websites included in this study have a FAQs part, only 8 of the websites do not have this part.
18) **E-mail support:** For e-commerce companies, providing support to customers by e-mail is valuable and a good and reliable way for the solution of customer problems since many problems require a detailed search and study at the back end. The websites, which provide an e-mail address for customer support in their website as well as the ones enable customers to send message through a messaging part in the site and response these messages via e-mail, are included as having e-mail support in this study. According to this identification, all of the websites examined meet the criterion.
19) **Customer feedback mechanisms:** They are also important tools for enhancing consumer trust in e-commerce websites as already mentioned in Section 4.8.5 and Section 2.6.3. For this criterion, all the types of feedback mechanisms including reputation systems, customer feedback forums, and customer testimonials are thought and evaluated as customer feedback

mechanisms. Some visual elements which symbolize this criterion from the examined websites are shown in Figure 5.4. The existence of feedback facility via virtual communities is also included as meeting this criterion. Accordingly, all of the websites in the study have a customer feedback mechanism.

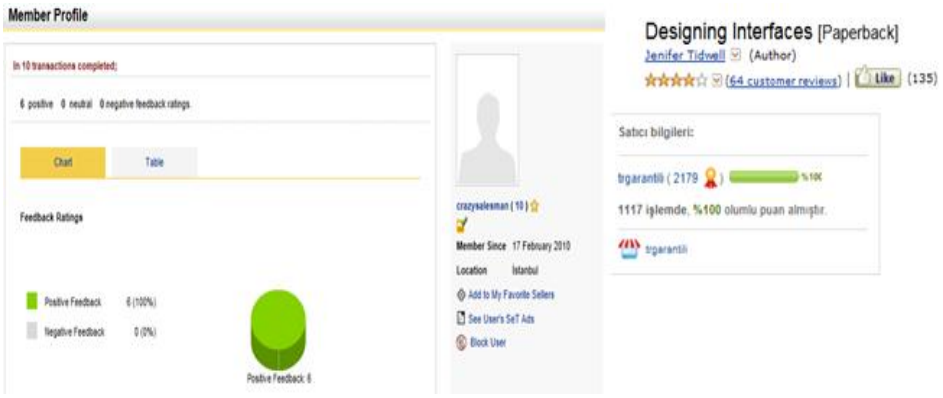

Figure 5.4: Examples of reputation rating visual elements

20) **Links to virtual communities for reviews, recommendations:** As already mentioned in Section 4.8.11, word of mouth technique is a valuable technique to increase consumer trust in e-commerce transactions. Virtual communities in online environment such as Facebook, Twitter are known as among the most popular websites for word of mouth. The e-commerce websites which link to these websites for product reviews, recommendations etc. gain an important advantage in terms of trust enhancement of customers. While some companies put images of them in their homepage, some of them also put them on the product page to provide customer to share it via these communities. Some examples of them, on the examined websites in this study, are shown in Figure 5.5. All of the reviewed websites meet this criterion.

Figure 5.5: Examples of virtual community visual elements

21) **Privacy policy:** This criterion is related with the existence of privacy policy anywhere in the website. Besides, they are usually linked in the homepage as it has been stated in the 6th criterion. In this study, only 6 websites have not got any privacy policy on their website.

22) **Third party support:** For this criterion, all the third party programs, institutions are included as satisfying it. For example, ISA programs that already have been mentioned in Section 4.5, specialty groups to guide online businesses such as ETID, Otto Group; reference of third party recommendation websites such as Shopsafe are involved. The examples of the visual elements for this criterion are shown in Figure 5.6. The websites, which satisfy this, are minority with a percentage of 30%.

Figure 5.6: Examples of third party visual elements

23) **Security policy:** Security issues are very important for e-commerce trust as described in Section 4.6. The clear demonstration of them as a written form on a part of website is searched for this criterion. Most of the websites examined (23 of 30) have a security policy on their websites.

24) **Security seals, logos and third party trust marks:** Visual elements are as important as written documents or statements about security. The examples of them in the investigated websites are shown as in Figure 5.7. Most of the investigated websites (70%) have security signs on their websites. Besides, it is surprising that many important websites such as Amazon.com, Gittigidiyor.com, Flypgs.com and Turkishairlines.com have not got any example of them.

Figure 5.7: Examples of security visual elements

25) **Digital certificates/SSL/S-HTTP technology/third party for secure transaction:** As already stated in the literature, secure technologies are valuable in terms of customer trust creation. This criterion is related with the existence of secure technologies on the website. If a webpage uses https connection which can be observed in the address bar of the browser as shown in Figure 5.8, then it means it uses SSL technology and it has a digital certificate which has been issued by a CA like Verisign, Globalsign. As depicted in Figure 5.8, some browsers like Internet Explorer also show the CA information and certificate details. The existence of S-HTTP technology cannot be directly observed on a website. So, only the existence of SSL technology is observed in this study. While most of the websites use SSL only in the payment stage, some websites like Amazon.com uses it starting by the stage of ordering. Since SSL encryption is mandatory for payment

processes, all the websites in the list meet this criterion.

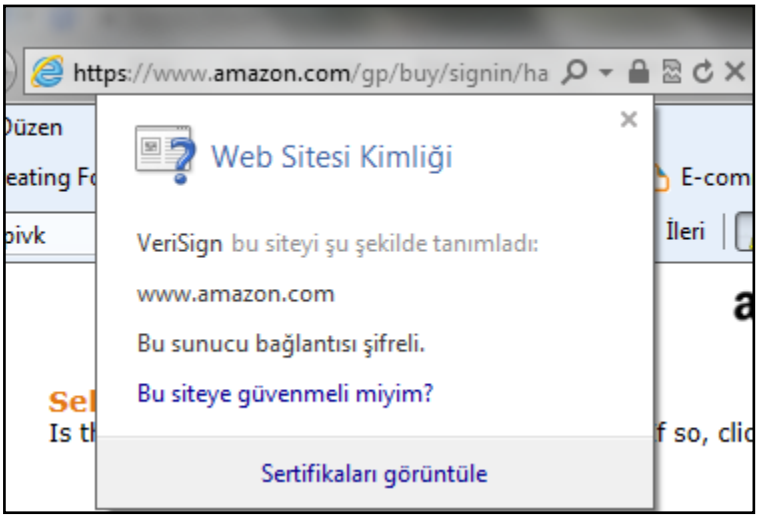

Figure 5.8: Example of secure technology visual element

26) **3d-secure technology:** The importance of 3d-secure technology in e-commerce transactions has been already stated 4.8.9. While some websites do not have this payment choice (e.g. Markafoni.com, Trendyol.com), some websites have (e.g. Hepsiburada.com, Gittigidiyor.com). But some of them give the choice to make the payment by using 3d technology to the customer. On the other hand, some websites make 3d secure payment mandatory. Additionally, out of the websites examined, some of them put visual elements in the homepage, while some of them do not put these elements anywhere in the website and the presence of the technology can only be discovered by coming to the payment stage. Some visual elements, belonging to the websites which have this technology, are shown in Figure 5.9. A moderate number of websites (16 out of 30) use 3d technology.

Figure 5.9: Examples of 3d-secure technology visual element

27) **Company name (legal name of the business):** The company name of the website is also an important consideration for trust transfer to consumer in online environment. Most of the companies give this information in the "about us" section of their website. All of the websites examined put company name on their website.

28) **Company physical address:** This criterion is also substantial, since it makes the customer to believe it there is a real organization behind the website. The websites put this information into "contact us" section of their website. This element is also met for all the websites.

29) **Company e-mail address:** Existence of an e-mail address, belonging to the company in the website, is essential for this criterion. This information is also located in "contact us" section of the websites, if it exists. Out of 30 websites, 11 of them do not have it, since many e-commerce companies give the e-mail support through a messaging system and do not put an e-mail address on their websites.

30) **Company telephone number:** The presence of telephone number of the company on the website is necessary for this criterion. It is important to stress that for this element, call center telephone number is not acceptable to satisfy the criterion in this study. The number of websites which have company telephone number on their websites is 11, out of 30.

31) **Relevant government registration or license numbers:** For this element, existence of governmental numbers such as trade registration number, license number, tax number is looked for the websites. This information is usually put in the "about us" section or "contact us" section in the examined websites. Half of the examined websites have such a number on their webpages.

32) **Specific staff name & contact number:** The presence of a specific staff name and contact number anywhere in the website is searched for this criterion. This information is usually located in "about us" section, "contact us" section or "human resources" part of the examined websites. The websites usually put the staff names, but give the company telephone number. They are also included as satisfying the criterion since they do not want to share their personal information. Only 9 of all the websites have this

information.

33) **Photo of premises:** This element is related with the presence of a photo of the working place or building of the company anywhere in the website. The satisfaction of this criterion is very scarce with a number of 3. These websites are Teknosa.com, Vatanbilgisayar.com and Turkishairlines.com.

34) **Photo of staff:** If a photo belonging to a staff of the e-commerce company exists anywhere in the website, then this criterion is satisfied. This information is mostly put on the "about us" section or human resources section of the website. Only 7 websites have "photo of staff" element on their websites.

35) **Contact us page:** The existence of a contact us page anywhere in the website is looked for this criterion. This element is also important in terms of trust, since this part facilitates customer to reach company via different environments other than internet. All of the studied websites have a contact us page.

36) **About us page:** The 3rd criterion, which looks for the link to "about us" section in the homepage, is an element which is related with design issues more as the study of Jones and Degrow (2011) on Fortune 500 homepages showed and it is indirectly related with consumer trust. In contrast, this criterion which is about the presence of "about us" page anywhere in the website is directly related with consumer trust as Swan and Rosenbaum (2004) suggested in their study. This situation is also same for the criteria related with contact information and privacy policy. All of the studied websites have an "about us" page.

37) **Return policy:** This criterion is related with whether a part exists related with the issues in case of product returns occur and it is met for all the websites in the study. Return policy is usually located on the help section of the examined websites. On contrary, in some of the websites, return policy is not located in a specific part of the website; rather it is included in the sales agreements.

38) **Delivery policy:** Delivery policy involves all the information related with the delivery of the product/service. This element is also usually located in the help section of the examined websites. There are also statements exist about

delivery in the sales agreements. Only 3 websites, which are Flypgs.com, Turkishairlines.com, and Etstur.com, do not put a delivery policy since it is inapplicable for this type of service companies.

39) **Order procedure:** This criterion is met when information exists anywhere in the website related with ordering of the product/service such as alternative ways of ordering and necessary steps in the ordering process. This information is located in the help section in the examined websites and it is also crucial information for consumer, since it depicts the whole sale process in the consumer mind and can give a certain degree of trust feeling toward the website. Two websites, Istanbulbilisim.com and Etstur.com have not got any order procedure.

40) **Payment procedure:** The presence of the information, related with the payment such as alternative payment methods, available bank integrations, and existing secure technology, means that this criterion is satisfied. Since payment is the stage which many consumer dither about the process, the description of the procedure is crucial to gain consumer trust and to prevent consumer resistance. Morphibo.com and Istanbulbilisim.com are two websites which have not got any payment procedure for customer guidance.

41) **Cost information including taxes, shipping and product costs:** This criterion is related with the presence of cost information including product/service cost, tax cost and shipping cost. The consumer must be able to see all of this information while he/she is shopping in the website. This criterion is observed in the payment stages of the examined websites and it is satisfied for a few websites with a number of 7. Some examples of them are Flypgs.com, Turkishairlines.com and Hızlıal.com.

42) **Information about resolution of disputes/legal process:** If there is information about the disputes and necessary legal processes in case of a dispute occurs, exists anywhere in the website, then this criterion is met. This information is mostly put in the sales agreements of the websites observed. All the websites, except Sanalpazar.com, have this information in their content.

43) **Product information/instruction:** This criterion is satisfied for the all the investigated websites. Besides, websites show differences in placing product

information. For example, in C2C websites, in addition to specific fields about the products/services for description, sellers can prepare product/service information freely in terms of design and content. Furthermore, some websites, such as Hepsiburada.com and Istanbulbilisim.com, put product videos as well as detailed pictures of the products on their websites which can be a factor of enhancing trust.

44) **Alternative ways of ordering:** This is related with the existence of alternative ways of ordering such as call center channel, sales offices, physical shops, etc. Out of 30, 12 websites have alternative methods for ordering.

45) **Online payment by credit card:** This criterion looks for the existence of payment by credit card online. In all of the websites investigated, this element is met.

46) **Alternative payment systems:** For this criterion, whether alternative payment methods, such as EFT (Electronic Fund Transfer), money order, discount coupons, gift coupons and cash payment, exist is looked for. Except Marcamarca.com and Lcwaikiki.com, all the websites present alternative payments systems for their customers.

47) **Contract enforcement in e-commerce:** This element is related with the existence of contracts including distance sale agreements and preliminary information forms which are directed to the consumer for approval before he/she completes the transaction. They are important elements of consumer trust, since they add a legal dimension to the transaction issued. Examples of them are distance sales agreements, preliminary information forms. In some of C2C websites like eBay sellers can customize sales contracts by changing the draft form which eBay provided. Sales agreements are compulsory for e-commerce websites in order to protect consumer right. Therefore, this element exists for all the websites in the list.

48) **Protection of intellectual property in online business:** This element is satisfied when a copyright symbol belonging to the company of the website is seen anywhere in the website. These symbols are also important in terms of increasing consumer trust as the other visual trust elements. Except 5 companies in the list, all of them put a copyright sign for the protection of

their rights.

Figure 5.10: Some examples of visual elements related with protection of intellectual property

5.3.3. Summary of the Findings on the Criteria Set

According to the data retrieved from the investigation done on the websites, the summary table related with the frequency of meeting of each criterion is derived as shown below in Table 5.10.

Table 5.10: Summary of the criteria meeting for website examinations

Consumer trust element	**# of ✓**	**% of ✓**	**Rank**
An image as the focal point of the home page	30	100,00	1
E-mail support	30	100,00	1
Customer feedback mechanisms	30	100,00	1
Links to virtual communities for reviews, recommendations	30	100,00	1
Digital Certificates/SSL/S-HTTP Technology/ Third party for secure transaction	30	100,00	1
Company name	30	100,00	1
Company physical address	30	100,00	1
Contact us page	30	100,00	1
About us page	30	100,00	1
Return policy	30	100,00	1
Product information /instruction	30	100,00	1
Online payment by credit card	30	100,00	1
Contract enforcement in e-commerce	30	100,00	1
Link to contact information in the homepage	29	96,67	2
Information about resolution of disputes	29	96,67	2
Company logo in the top left of the homepage	28	93,33	3

✓ indicates criterion is satisfied for the website.

Table 5.10: Summary of the criteria meeting for website examinations (Continued)

Consumer trust element	**# of ✓**	**% of ✓**	**Rank**
Order procedure	28	93,33	3
Payment procedure	28	93,33	3
Alternative payment methods	28	93,33	3
Delivery policy	27	90,00	4
Protection of intellectual property in online business	25	83,33	5
Link to about us section in the homepage	24	80,00	6
Link to a privacy policy in the homepage	24	80,00	6
Privacy policy	24	80,00	6
Security policy	23	76,67	7
FAQs	22	73,33	8
Security seals, logos and third party trust marks	21	70,00	9
Call center support	21	70,00	9
A policy on content	20	66,67	10
Disclosing performance history	20	66,67	10
Company e-mail address	19	63,33	11
Company telephone number	19	63,33	11
3d-secure technology	18	60,00	12
Representative audio or video clips	16	53,33	13
Link to a legal information or terms of use page at the homepage	16	53,33	13
Relevant government registration or license numbers	15	50,00	14
Linking to outside materials, sources	13	43,33	15
Alternative ways of ordering	12	40,00	16
Search box located in the upper right of the homepage	10	33,33	17

✓ indicates criterion is satisfied for the website.

Table 5.10: Summary of the criteria meeting for website examinations (Continued)

Consumer trust element	**# of ✓**	**% of ✓**	**Rank**
Third party support	9	30,00	18
Specific staff name & contact number	9	30,00	18
Link to a sitemap at the homepage	7	23,33	19
Photo of staff	7	23,33	19
Cost information including taxes, shipping and product costs	7	23,33	19
Link to information for investors in the homepage	4	13,33	20
Synchronous communication media	3	10,00	21
Photo of premises	3	10,00	21
E-catalog	2	6,67	22

✓ indicates criterion is satisfied for the website.

According to this table, the criteria which are satisfied in all of the websites are:

- An image as the focal point of the home page
- E-mail support
- Customer feedback mechanisms
- Links to virtual communities for reviews, recommendations
- Digital certificates /SSL/S-HTTP technology/ third party for secure transaction
- Company name
- Company physical address
- Contact us page
- About us page
- Return policy
- Product information /instruction
- Online payment by credit card
- Contract enforcement in e-commerce

These 13 elements have been concluded from the literature review for consumer trust. Besides, the 30 websites in the list are websites in Turkey which have the best traffic ranks. Additionally, it can be inferred that the high traffic can result in better amount of sales, since it can increase the probability of the actualization of sales. Moreover, better sales numbers show the success of the website and trustworthiness of them in connection with the success. Therefore, the elements of this criteria set are valuable in terms of being a mean for trust transfer to consumer in e-commerce transactions.

Additionally, the elements which have an existence percentage of %80 and above 80% are also important in terms of being good practices of trustworthiness for e-commerce websites in Turkey. These are:

- Information about resolution of disputes
- Company logo in the top left of the page at the homepage
- Order procedure
- Payment procedure
- Alternative payment methods
- Delivery policy
- Protection of intellectual property in online business
- Link to about us section in the homepage
- Link to a privacy policy in the homepage
- Privacy policy

5.3.4. Trustworthiness Assessment of the Websites

Each e-commerce website has a trustworthiness degree for its consumers which indicate that how much they trust the related website. Therefore, a method to contribute the customers to decide whether trust or not to trust an e-commerce website can be worthy for them. In this section, trustworthiness assessments of the 30 websites are done according to the two different approaches.

5.3.4.1. Assessment According to the Findings of This Study

In order to produce a trustworthiness degree for the 30 websites examined in terms of 48 trust elements, the best way to get a ranking table is to get the frequency values of trust elements for each website. By this approach, each element is evaluated as having the same importance on the trustworthiness assessment. In other words, their effect on the trustworthiness of the websites is equal. Since there is not a complete and one list ranking for all the trust elements in the criteria list from the previous studies, this approach is reasonable and easy and can give useful ideas for the trustworthiness ranking of the 30 websites. Moreover, the ranks of the criteria set given in Table 5.10 can contribute to this evaluation by concentrating on the top 10 rank in the list.

The ranking of the websites is shown in Table 5.11. The ranking values which are same imply that these websites show similar characteristics in terms of trustworthiness. For example, websites of Sahibinden and Flypgs; Trendyol and Teknosa; Gittigidiyor and Lcwaikiki; Markafoni, Hızlıal, Amazon, IstanbulBilisim and Grupanya are similar in terms of trustworthiness although they are different implementations of e-commerce.

Table 5.11: Ranking of the websites according to the criteria set of this study

Rank	**Website**	**# of ✓**	**Rank**	**Website**	**# of ✓**
1	Turkishairlines	42	8	Vipdukkan	33
2	Biletix	40	8	Daybuyday	33
3	Sahibinden	39	9	Vatanbilgisayar	32
3	Flypgs	39	9	Etstur	32
4	Ebay	38	9	Indirdik	32
5	Trendyol	37	10	Hepsiburada	31
5	Teknosa	37	10	Sehirfirsati	31
6	GittiGidiyor	36	11	Sanalpazar	30
6	Lcwaikiki	36	11	Bonubon	30
7	Markafoni	34	12	Morhipo	29
7	Hızlıal	34	12	Marcamarca	29
7	Amazon	34	12	Bimeks	29
7	Istanbulbilisim	34	12	Dr	29
7	Grupanya	34	13	Gold	28
8	Limango	33	14	Kitapyurdu	24

✓ indicates criterion is satisfied for the website.

According to the table, the most trustworthy website is the website of Turkish Airlines company which is one of the leading airline companies in Turkey. Therefore, it will be useful to make a more detailed evaluation of trustworthiness of this website. The website fulfills many trust attributes except the ones such as "link to a sitemap on the homepage" (rank 19 in Table 5.10), "e-catalog" (rank 22 in Table 5.10), "synchronous communication media" (rank 21 in Table 5.10) and "third party support" (rank 18 in Table 5.10) which many of the examined websites do not have. On the other hand, it can be interpreted as a deficiency for the website of Turkish Airlines not to meet the criterion; "security seals, logos and third party trust marks"

which many websites have (rank 9 on Table 5.10). Furthermore, since this company is a service company in which there is no delivery of any product or service, it is acceptable for the website not to meet the criterion “delivery policy”.

Besides, the website of other airline company, Flypgs also has a high ranking with a value of 3. The website of Flypgs does not have an attribute which is deficient and has a high ranking value. It loses some points as a combination of some attributes deficient in the website with low ranking values.

One of the points of interest in the table is the rank (ranked as 7) of Amazon website which is one of the famous leadings websites in the world and the rank is expected to be higher for most of people. When the deficiencies of the website in terms of trust criteria set are looked through, it can be seen that the website does not satisfy many important elements such as “link to contact information in the homepage” (rank 2 in Table 5.10), “link to about us section in the homepage” (rank 6 in Table 5.10), “security seals, logos and third party trust marks” (rank 9 in Table 5.10). Moreover, the other non-existent elements are also effective as a whole in the low rank of Amazon website.

When the websites are examined in terms of different categorizations of e-commerce as described in Section 5.3.1, for instance, private shopping websites including Trendyol, Markafoni, Limango, Morhipo, Vipdukkan, Marcamarca and Daybuyday do not have a tendency to aggregate in a group in terms of trustworthiness attributes as shown in Table 5.12. Besides, they seem to be scattered in the ranking having values between 5 and 12 although they seem to resemble each other in terms of web design characteristics when navigation is done on the related websites. On contrary, the online buying group websites (Table 5.14) including Sehirfirsati, Bonubon, and Grupanya and multi category retailers (Table 5.13) including Hepsiburada, Sanalpazar, Hizlial, Amazon, and Indirdik have more inclination to cluster in a group, in comparison to private shopping websites, with having ranking values changing in the range of 7 and 11. Further, the factor of difference in the chosen number of websites in these e-commerce types is also can be thought as being

effective in the various dispersion of the rank values.

Table 5.12: Ranks of private shopping websites

Rank	Website
5	Trendyol
7	Markafoni
8	Limango
8	Vipdukkan
8	Daybuyday
12	Morhipo
12	Marcamarca
8,57	μ (~)

Table 5.13: Ranks of multi category retailers' websites

Rank	Website
7	Hızlıal
7	Amazon
9	Indirdik
10	Hepsiburada
11	Sanalpazar
8,8	μ

Table 5.14: Ranks of buying group websites

Rank	Website
7	Grupanya
10	Sehirfirsati
11	Bonubon
9,33	μ (~)

The websites of retailing firms which have also their physical shops, including Vatanbilgisayar, Teknosa, Gold, Bimeks, Istanbulbilisim, also have rank values in a large range changing between 5 and 13 as it is shown in Table 5.15. This situation shows these websites' variability in having trustworthiness attributes.

Table 5.15: Ranks of retailing firms with physical shops

Rank	Website
5	Teknosa
7	Istanbulbilisim
9	Vatanbilgisayar
12	Bimeks
13	Gold
9,2	μ

Two websites of book and gift selling companies, Kitapyurdu and D&R seem at the bottom of the ranking list. It means that although they are at the top according to the Alexa traffic, they still lack many trustworthiness attributes on their websites.

Additionally, it may indicate that more subjective factors are effective in the consumer behavior as explaining the high traffic rank of the websites. Also, this situation can be interpreted as people's tendency to buy from the physical stores and going on these websites only to get information about products. This tendency can be explained by the study of Otto and Chung (2000) in which they referred to relative advantages and disadvantages of cyber retailing and physical retailing. A consumer can behave in parallel to get the sum of the advantages that these two options bring while he/she practices a part of each shopping process. According to them, from a consumer's viewpoint, the advantages of online shopping are rate of information exchange, convenience and anonymity which are explained below:

- Among the advantages of online shopping, the rate of information exchange is high since communicating online provides a faster exchange of considerably more information.
- As convenience aspect, customers can search a huge database presenting millions of products in seconds. Additionally, online shopping does not entail buyers to be locally present in the place. They can search or purchase online and the products can be delivered to their location.
- Anonymity is the other advantage that e-commerce provides for the people on the online environment due to the fact that it is not necessary for them to visit the store physically.

According to Otto and Chung (2000), the advantages of physical shopping are social interaction, touch and feel, personal service, immediacy, monetary instruments, shipping costs and security which are explained below:

- For physical shopping, social interaction and personal service are plus since it is difficult in online shopping to create interaction like it is face-to-face in physical shopping and provide support for people.
- Traditional shopping facilitates a physical touch and feel which constitute most of consumers' buying decisions in many situations.
- When a consumer buys a product from a physical store, the consumer usually gets it at the time of the shopping without waiting for delivery which explains the immediacy feature of physical shopping.

- More options for payment and the option of paying by cash makes people inclinable to traditional shopping.
- In physical shopping, consumers are not incurred to extra costs like shipping costs.
- Security is not an issue for most of consumers in a physical shopping, while it constitutes an important concern for online shopping.

Taking these issues into consideration, the situation of the websites which have low trustworthiness values in spite of high traffic ranks can be explained by the consumers' act in a way which they will get the maximum benefit from a sale.

The other group of e-commerce websites which is C2C includes the websites of Sahibinden, Ebay and Gittigidiyor as seen in Table 5.16. The ranking values of these 3 websites, changing in the range of 3 and 6, show that C2C websites are good at having the trustworthiness elements located in their websites. In addition to this, the close ranking values also demonstrate that they are similar with each other in terms of trustworthiness attributes they have.

Table 5.16: Ranks of C2C websites

Rank	**Website**
3	Sahibinden
4	Ebay
6	GittiGidiyor
4,33	μ (~)

When the means of the trustworthiness rank values of different e-commerce categories are examined, it can be observed that C2C category has the highest ranking mean, while the mean value is the lowest for the buying group websites. This fact infers to high trustworthiness of C2C websites and low trustworthiness for buying group websites as a whole for the examined e-commerce websites in Turkey.

5.3.4.2. Assessment According to the Study of Che-Hussin et al.

In order to look through a difference perspective, it is seemed to be reasonable to add

some subjective aspect to the study. For this purpose, since there is not a single ranking list from the previous researches for all the criteria in our list to weight the elements differently, the study of Che-Hussin et al. (2003), in which the ten trustworthiness attributes are ranked according to the responses of survey participants, is used. This study is taken as a basis for an alternative trustworthiness assessment of the examined websites since it provides an ordered list which enables to weight the trust elements differently by the inclusion of subjective evaluations of many people. Additionally, the ranking list, which is resulted from the study, is a conclusion of an extensive literature review consisting of five models of trust in e-commerce and an online questionnaire which is applied on 1230 participants. In terms of these aspects, the reliability of the survey results can be considered as high.

The ranking list of Che-Hussin et al. has been already given in Chapter 4 on Table 4.4 and the ranking values of 7 attributes shown in Table 5.17 are used and necessary weights are produced by using them. The reason for the exclusion of the three elements is that these elements are grouped in different headings together with other trust elements in this study. So, only the criteria which match exactly with the ones in the list of Che-Hussin et al. are selected in the same order. For 7 trust elements, multi attributes decision analysis is used for the placement of weights to the trust elements.

Table 5.17: Selected elements from the study of Che-Hussin et al. (2003)

Rank	Trust Attribute
1	Company telephone number
2	Company e-mail address
3	Privacy Policy
4	Company address
5	Third party for secure transaction
6	Specific staff name & contact number
7	Photo of staff

There are several methods to give a weight for the attributes such as rank order

method, ratio weights method and equal weights method (Jia, Fischer, & Dyer, 1998). Rank-order methods, including Rank-Sum and Rank-Order-Centroid (ROC), use ordinal information belonging to attribute importance and supply a valuable approach (Jia, Fischer & Dyer, 1998). ROC method is used in this study to determine the weight values of trust elements and to use this weight values in order to make an ordering of the websites included in this study according to their trustworthiness.

While n showing the total number of attributes, for the i th attribute in the list, the weight for the attribute is calculated according to the formula given below.

$$w_i(ROC) = \frac{1}{n}\sum_{j=i}^{n}\frac{1}{j}, i = 1, \dots, n$$

According to this formula, for example, for the element "company number" with the rank value 1, weight value is calculated as:

$$w_1(ROC) = \frac{1}{7}\left(1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} + \frac{1}{6} + \frac{1}{7}\right) \cong 2{,}6$$

By the calculation of the weights, the table for the values as a percentage is given below.

Table 5.18: Selected attributes for ROC method from the study of Che-Hussin et al. (2003)

Rank	Trust Attribute	Weight (%)
1	Company telephone number	37,041
2	Company e-mail address	22,755
3	Privacy policy	15,612
4	Company address	10,85
5	Third party for secure transaction	7,2789
6	Specific staff name & contact number	4,4218
7	Photo of staff	2,0408

The weights in the Table 5.18 are used to calculate the degree of trustworthiness of

an e-commerce website. For instance, a website which has only company telephone number is more trustworthy compared to a website which has only company e-mail address. Moreover, a website which has specific staff name and contact number, photo of staff, company address and third party for secure transaction having a total weight of 24,2915 is still less trustworthy compared to a website which has only company telephone number.

After weights are applied to the data concluded from the study, the ordering according to the calculated trustworthiness values shown in "TV" column as it is shown in Table 5.19 as below.

Table 5.19: Ranking of the websites according to the 7 trust attributes of Che-Hussin et al.

Rank	**Website**	**TV**	**Rank**	**Website**	**TV**
1	Sahibinden	1,14	7	Morhipo	0,89
1	Turkishairlines	1,14	8	Kitapyurdu	0,87
2	Grupanya	1,12	8	Ebay	0,87
2	Lcwaikiki	1,12	9	Daybuyday	0,75
3	Biletix	1,10	10	Vipdukkan	0,71
4	Trendyol	1,08	11	Markafoni	0,71
4	Hızlıal	1,08	11	Limango	0,71
4	Flypgs	1,08	12	Gold	0,69
4	Sehirfirsati	1,08	13	Bimeks	0,55
4	Marcamarca	1,08	13	Istanbulbilisim	0,55
4	Bonubon	1,08	14	Vatanbilgisayar	0,48
4	Indirdik	1,08	14	Sanalpazar	0,48
5	Dr	0,92	14	Amazon	0,48
6	GittiGidiyor	0,91	15	Teknosa	0,39
7	Etstur	0,89	16	Hepsiburada	0,32

According to this ranking, websites of Sahibinden and Turkishairlines are the most trustworthy websites by satisfying all of the 7 criteria, while Grupanya and Biletix

are second in this ranking. Biletix is the third and 7 websites share the rank 4. The reason for the fact that many websites share the same rank is the low number of attributes that are based for the evaluation. In the list, the worldwide well-known websites, Ebay having rank 8, and Amazon having rank 14 seem a bit left behind according to this trustworthiness evaluation. This situation can also be expounded by the low number of attributes. In addition to this, since this study of Che-Hussin et al. does the ranking of trust according to consumer perception, the accuracy of the ranking of the attributes depends on the subjective evaluations of the customers.

When the websites are examined in terms of different categorizations of e-commerce as in the previous method, the tables below are produced.

Table 5.20: Ranks of private shopping websites

Rank	Website
4	Trendyol
4	Marcamarca
7	Morhipo
9	Daybuyday
10	Vipdukkan
11	Markafoni
11	Limango
8	μ (~)

Table 5.21: Ranks of multi category retailers' websites

Rank	Website
4	Hızlıal
4	Indirdik
14	Sanalpazar
14	Amazon
16	Hepsiburada
10,4	μ

Table 5.22: Ranks of buying group websites

Rank	Website
2	Grupanya
4	Sehirfirsati
4	Bonubon
3,33	μ (~)

According to the Table 5.20, the ranks of private shopping websites, changing in the range between 4 and 11, show a similar trustworthiness degree as in the previous method in general, but the ranking values for each website change. The ranks for multi category retailers' websites shown in Table 5.21 are distributed wider in this model and average ranking goes a lower level. On the other hand, 3 buying group websites in Table 5.22 are similar to each other and have higher ranking values in this method with an average value of 3.33.

Table 5.23 figures out the ranking values for retailing firms with physical shops. The values are so close to each other with showing the resemblance of the websites in terms of trustworthiness. Also the average ranking value for this category is worse for this examination method.

Ranks of C2C websites (Table 5.24) lay over a larger range for this method and average rank value decreases for the websites.

Table 5.23: Ranks of retailing firms with physical shops

Rank	Website
12	Gold
13	Bimeks
13	Istanbulbilisim
14	Vatanbilgisayar
15	Teknosa
13,4	μ

Table 5.24: Ranks of C2C websites

Rank	Website
1	Sahibinden
6	GittiGidiyor
8	Ebay
5	μ (~)

5.3.4.3. Comparison of the Two Methods

When a comparison is done between two ranking lists, the findings below are retrieved:

- The first ranking is done according to the frequency of the trust elements while the second ranking is done according to the ranking of Che-Hussin et al. (2003). So, two lists are distinct from each other in the order.
- The websites having a rank between 1 and 5 in both of the lists are Sahibinden, Turkishairlines, Biletix, Flypgs, and Trendyol. On the other hand, the websites which have the lowest 5 ranking values, Hepsiburada, Sanalpazar, Bimeks and Gold are common in both of the lists. However, these websites' individual ranks change in two lists. Still, the intersection of top 5 ranking and the intersection of bottom 5 ranking lists are important since they are verifying each other.
- The rank lists for different categories of e-commerce in two methods show

distinctions in the orders and in the mean values for the ranks since they use different attributes and different ways of ranking according to the weighting of the attributes.

- If the ranking lists for trustworthiness are compared with the traffic rank of Alexa, the websites of Sahibinden and Trendyol seem to be in the top 5 of both traffic ranking and trustworthiness ranking lists. This fact indicates that these websites are not only websites that people visit frequently, but also they are the ones that probably people will trust more and where they will do more shopping.

5.4. Summary of the Chapter

In this chapter, 30 chosen e-commerce websites in Turkey have been examined and compared in terms of directly observable and non-subjective trust components that are derived from the literature review. Further, most important trust attributes have been determined in accordance with the literature review. Two different approaches have been used in the ranking of attributes and the ranking of the websites. Websites similar to each other have been grouped and their trustworthiness has been evaluated.

Chapter 6

Conclusion

6.1. Objective of the Chapter

The objective of this chapter is to conclude the thesis with research perspective and implication and suggestion for further research.

6.2. Research Perspective and Implication

The main objective of this thesis is to extract the common trust elements in top 30 websites in Turkey in the light of the study that is done on trust and trust related concepts, e-commerce and e-commerce related concepts, e-commerce trust models and theories and to make a ranking and evaluation of the 30 websites in terms of concluded trust elements. In the first 4 chapters, the theoretical part, relevant literatures have been reviewed in order to understand the trust and e-commerce related concepts and models better and to detect the necessary trust elements from the literature review. The first 4 chapters form the main theme of this thesis.

The common practices of top e-commerce websites in Turkey are valuable to provide a trust factor checklist for all of the e-commerce websites in Turkey. Therefore, based on Alexa ranking provider's list for top 30 websites in Turkey, the websites have been subtracted for the evaluation of 48 trust elements derived from the literature review. As a result of the examination of the websites, 13 elements have been found common for all the 30 websites which are valuable for e-commerce websites in terms of communicating trustworthiness to consumers. These elements are listed below:

- An image as the focal point of the home page
- E-mail support
- Customer feedback mechanisms
- Links to virtual communities for reviews, recommendations

- Digital certificates/SSL/S-HTTP technology/third party for secure transaction
- Company name
- Company physical address
- Contact us page
- About us page
- Return policy
- Product information / instruction
- Online payment by credit card
- Contract enforcement in e-commerce

Additionally, 10 elements which are present in 80% or above 80% of the websites have been derived to be contributive for e-commerce websites in applying trust elements to their websites. These elements are:

- Information about resolution of disputes
- Company logo in the top left of the page at the homepage
- Order procedure
- Payment procedure
- Alternative payment methods
- Delivery policy
- Protection of intellectual property in online business
- Link to about us section in the homepage
- Link to a privacy policy in the homepage
- Privacy policy

Moreover, the 30 websites are evaluated according to two different approaches to provide a ranking list for trustworthiness of the websites. Two ranking lists are distinct from each other with taking different trust attributes into consideration and having a subjective aspect. Moreover, they intersect at some points and they are important indicators for the trustworthiness of these websites. Additionally, they are valuable in terms of supplying a clustering of the websites in terms of

trustworthiness.

As a combination of two ranking methods applied to 30 e-commerce websites, the intersection of top 5 ranking and the intersection of bottom 5 ranking lists are important since they are verifying each other, although these websites' individual ranks change in two lists. According to the results,

- Sahibinden, Turkishairlines, Biletix, Flypgs, and Trendyol are in the top 5 ranking in both lists. These websites can be considered as the most trustworthy websites among the top 30 websites in Turkey within the boundaries of this research.
- Hepsiburada, Sanalpazar, Bimeks and Gold are websites which are in the lowest 5 ranking values in both of the lists. These websites can be considered as the less trustworthy websites among the top 30 websites in Turkey within the boundaries of this research.

Furthermore, in the context of the literature review done, there are some issues which hinder most people from buying online and direct them to physical shopping. These are:

- It is difficult in online shopping to create interaction like it is face-to-face in physical shopping and provide support for people.
- Traditional shopping facilitates a physical touch and feel which constitute most of consumers' buying decisions in many situations.
- When a consumer buys a product from a physical store, the consumer usually gets it at the time of the shopping without waiting for delivery which explains the immediacy feature of physical shopping.
- More options for payment and the option of paying by cash makes people inclinable to traditional shopping.
- In physical shopping, consumers are not incurred to extra costs like shipping costs.
- Security is not an issue for most of consumers in a physical shopping, while it constitutes an important concern for online shopping.

Additionally, in the context of the literature review done and the published sources' data, there are some issues related with the development of e-commerce and trust issues related with e-commerce in Turkey. These are,

- Although the statistics related with the number of credit cards, broadband access and the number of e-commerce transactions in Turkey indicate an increasing trend year by year, Turkey seems to fall behind most of the countries in the world. This fact can be an indicator for a lack of trust in online environment in Turkey.
- Despite the fact that the usage of virtual credit cards is increasing year by year, the virtual credit card transaction rate constitutes a low portion of whole e-commerce transactions in Turkey. They can be good tools for enhancing security in online environment and in connection to this; they can be precious for improving consumers' trust online.
- The 3d secure facility in Turkey is provided by a low rate (28.23%) of merchants. Besides, this is also another valuable tool for the security and trust in online transactions.

6.3. Thesis Limitations

This thesis has some limitations listed as below:

- The empirical study was made with regard to the reliability of the results of the literature review. The resulting findings about the consumer trust factors in e-commerce website may not be enough to build trust with consumers.
- The research has a conceptual-analytical strategy.
- The results of the study were founded according to interpretation of the author; they are not objective in the natural science sense (Gadamer, 1989).
- The study gives results about trust factors which are clearly observable and then non-subjective. It does not present results about subjective trust factors in e-commerce.
- The findings about trust factors in e-commerce from the literature review were only investigated on the chosen best websites according to www.alexa.com.
- Although in the study, different types of e-commerce were examined and mentioned, the focus is on business to consumer (B2C) e-commerce.

6.4. Suggestions for Future Practices and Future Researches

This study implies many important points for future practices to enhance e-commerce trust in Turkey. These are:

- Merchants should integrate the trust elements suggested in this study to their websites and also should demonstrate their presence clearly and effectively on their websites in order to better communicate trustworthiness to their customers. The websites; Sahibinden, Turkishairlines, Biletix, Flypgs, and Trendyol could be good visible examples for them to observe and follow some practices they have.
- Merchants should be well aware of the security features that 3d integration brings and more merchants should implement 3d secure technology on their websites to gain the trust of consumers which are afraid of the obscurity and hence insecurity of online environment and insist on buying physically.
- Consumers trust the systems and applications which provide advantages and convenience to them in a secure manner. Therefore, merchants should look for the ways to bring the advantageous and secure aspects of a physical shopping into online shopping process. To accomplish this,

  - They should provide support so qualified that a customer must feel it as it is like in a face-to-face interaction.

  - They can present several campaigns and advantages that a customer can only get online. (This can be also supported by banks).

  - They can resolve the absence of touch and feel feature in the online environment by enabling consumers the opportunity of experiencing the product physically in store or by the delivery of the product to the customer before buying it while directing them to buy online.

  - They can lessen the time for product delivery.

  - More online merchants should have the option of paying by cash at the time of delivery.

  - Merchants should apply campaigns related with shipping costs.
- Virtual credit cards should be advertised better by the banks. Additionally, merchants should put information about virtual credit cards including their advantages related with security, their ease of use, their way of acquisition on

their websites so that they can encourage consumers for their usage.

- Consumers should be informed about the possible security threats in online environment. They should receive enough knowledge about the necessary precautions for security; they can apply in the client side. The enlightenment may be via virtual communities, seminars, workshops and other similar ways.

As a suggestion for future research,

- A future research needs to be done for the resulted 48 trust elements on the selected top 30 websites in Turkey by experiments of survey participants on the websites, and by the application of a questionnaire to them to retrieve the results of personal experiences. Additionally, in this survey, subjective trust elements also can be included to the criteria list. Hence, the effect of individualistic and subjective characteristics of online trust can be better discovered.

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Appendix A: Website Comparison Table

The top 30 websites in Turkey have been evaluated in terms of trustworthiness in Chapter 5. Each website's state about whether it satisfies a specific trustworthiness attribute is shown in Table A.1. The columns in the table, which show the name of the websites, are ordered according to their Alexa ranking. Additionally, the rows in the table, representing the trustworthiness attributes are ordered in accordance with their attribute ranks which have been given in Section 5.3.3.

Table A.1: Website Comparison Table

	Sahibinden	GittiGidiyor	Hepsiburada	Trendyol	Markafoni	Vatanbilgisayar	Sanalpazar	Limango	Ebay	Hızlıal	Amazon	Flypgs	Morhipo	Turkishairlines	Teknosa	Vipdukkan	Gold	Sehirfirsati	Marcamarca	Bimeks	Etstur	Istanbulbilisim	Kitapyurdu	Bonubon	Indirdik	Daybuyday	Grupanya	Biletix	Lcwaikiki	Dr
An image as the focal point of the home page	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
E-mail support	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Customer feedback mechanisms	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Links to virtual communities for reviews, recommendations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Digital certificates/SSL/S-HTTP technology/ third party for secure transaction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Company name	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Company physical address	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Contact us page	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
About us page	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓
Return policy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Product information/instruction	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Online payment by credit card	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Contract enforcement in e-commerce	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Link to contact information in the homepage	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Information about resolution of disputes	✓	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Company logo in the top left of the page at the homepage	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table A.1: Website Comparison Table (Continued)

	Sahibinden	GittiGidiyor	Hepsiburada	Trendyol	Markafoni	Vatanbilgisayar	Sanalpazar	Limango	Ebay	Hızlıal	Amazon	Flypgs	Morhipo	Turkishairlines	Teknosa	Vipdukkan	Gold	Sehirfirsati	Marcamarca	Bimeks	Etstur	Istanbulbilisim	Kitapyurdu	Bonubon	Indirdik	Daybuyday	Grupanya	Biletix	Lcwaikiki	Dr
Order procedure	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	x	✓	✓	✓	✓	✓	✓	✓	✓
Payment procedure	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓
Alternative payment methods	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓
Delivery policy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	x	✓	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓
Protection of intellectual property in online business	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	x	✓	✓	✓	✓	✓	x	x
Link to about us section in the homepage	✓	✓	✓	✓	✓	x	✓	x	✓	✓	x	✓	✓	✓	✓	✓	x	✓	✓	x	✓	✓	x	✓	✓	✓	✓	✓	✓	✓
Link to a privacy policy in the homepage	✓	✓	x	✓	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	x	✓	x	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	x
Privacy policy	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	x	✓	✓	x	✓	x	✓	✓	✓	✓	✓	✓	✓	x
Security policy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	x	x	✓	✓	x	✓	x	✓	✓	x	x
FAQs	✓	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	x	✓	x	✓	x	✓	x	✓	x	✓	✓	✓	✓	✓	x	x
Security seals, logos and third party trust marks	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	x	x	✓	x	✓	✓	✓	x	✓	✓	x	✓	x	x	✓	✓	✓	✓	x	✓
Call center support	✓	x	✓	✓	✓	✓	x	✓	x	x	✓	✓	x	✓	✓	✓	x	✓	x	✓	✓	✓	x	✓	✓	✓	x	✓	✓	✓
A policy on content	✓	✓	x	✓	✓	x	x	✓	✓	x	✓	✓	x	✓	✓	✓	x	✓	✓	✓	✓	x	x	✓	x	✓	✓	✓	✓	x
Disclosing performance history	✓	✓	✓	✓	✓	x	✓	x	✓	x	✓	✓	x	✓	✓	✓	✓	x	x	✓	✓	✓	x	x	x	x	✓	✓	✓	✓
Company e-mail address	✓	x	x	✓	✓	x	x	✓	x	✓	x	✓	x	✓	x	✓	x	✓	✓	✓	x	✓	x	✓	✓	✓	✓	✓	✓	✓
Company telephone number	✓	✓	x	✓	x	x	x	x	✓	✓	x	✓	✓	✓	x	x	✓	✓	✓	x	✓	x	✓	✓	✓	x	✓	✓	✓	✓
3d-secure technology	✓	✓	✓	✓	x	✓	x	✓	✓	✓	✓	✓	x	✓	✓	x	✓	x	x	x	✓	✓	x	x	x	✓	x	✓	✓	x
Representative audio or video clips	✓	✓	✓	✓	x	✓	x	x	✓	✓	✓	✓	x	✓	✓	✓	x	x	x	x	✓	✓	x	x	x	x	x	✓	✓	x

Table A.1: Website Comparison Table (Continued)

	Sahibinden	GittiGidiyor	Hepsiburada	Trendyol	Markafoni	Vatanbilgisayar	Sanalpazar	Limango	Ebay	Hızlıal	Amazon	Flypgs	Morhipo	Turkishairlines	Teknosa	Vipdukkan	Gold	Sehirfirsati	Marcamarca	Bimeks	Etstur	Istanbulbilisim	Kitapyurdu	Bonubon	Indirdik	Daybuyday	Grupanya	Biletix	Lcwaikiki	Dr
Link to a legal information or terms of use page at the homepage	✓	✓	x	✓	x	✓	x	✓	✓	x	✓	✓	x	✓	x	x	x	x	✓	x	✓	x	x	✓	x	✓	✓	✓	✓	x
Relevant government registration or license numbers	x	✓	✓	✓	✓	x	x	✓	x	✓	x	✓	✓	✓	x	x	x	✓	x	x	✓	x	x	x	✓	x	✓	✓	x	✓
Linking to outside materials, sources	✓	x	x	✓	✓	x	x	x	✓	x	✓	✓	x	✓	✓	✓	x	x	x	x	✓	✓	✓	x	x	x	x	✓	x	x
Alternative ways of ordering	✓	x	x	x	x	✓	x	x	x	x	x	✓	x	✓	✓	x	✓	x	x	✓	✓	✓	x	x	x	x	x	✓	✓	✓
Search box located in the upper right of the homepage	x	x	x	x	x	✓	✓	x	x	✓	x	x	x	✓	x	x	✓	x	x	✓	x	✓	x	x	✓	x	x	x	✓	✓
Third party support	x	x	x	x	✓	x	✓	✓	x	✓	✓	✓	x	x	✓	✓	x	x	x	x	x	x	x	x	x	x	x	x	✓	x
Specific staff name & contact number	✓	✓	x	x	x	x	x	x	x	x	x	x	✓	✓	✓	x	x	x	x	x	✓	x	x	x	x	✓	✓	x	✓	x
Link to a sitemap at the homepage	x	✓	x	x	x	x	✓	x	✓	x	x	✓	x	x	x	x	x	x	x	x	x	✓	x	x	x	x	x	✓	✓	x
Photo of staff	✓	✓	x	x	x	x	x	x	✓	x	x	x	x	✓	✓	x	x	x	x	x	x	x	✓	x	x	x	x	✓	x	x
Cost information including taxes, shipping and product costs	x	x	✓	x	x	x	x	x	x	✓	x	✓	x	✓	x	x	✓	x	x	x	x	✓	x	x	x	✓	x	x	x	x
Link to information for investors in the homepage	x	x	x	x	x	x	x	x	✓	x	✓	x	x	✓	✓	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Synchronous communication media	x	x	x	x	x	x	✓	x	✓	x	✓	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Photo of premises	x	x	x	x	x	✓	x	x	x	x	x	x	x	✓	✓	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
E-catalog	x	x	x	x	x	x	x	x	x	x	x	x	x	x	✓	x	x	x	x	x	x	x	x	x	x	x	x	x	✓	x

Curriculum Vitae

Nilay Argün was born on June 13, 1986, in Istanbul. She received her BS degree in Statistical and Computer Sciences and Computer Engineering as a second major in 2009 from Kadir Has University where she graduated second in her class. She won TUBITAK Scholarship for her MS education. From 2010 to 2012, she worked as a software development specialist in Credit Card Systems department of a private bank and she continues doing this job currently.