

**Factors that influence users' perceptions of trust in
e-commerce**

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I certify that all material in this dissertation which is not my own work has been identified and that no material is included for which a degree has previously been conferred on me.

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Abstract

The popularity of personal computers and recent advances in Internet technology has provided companies with a new medium for selling their products and increasing their customer base. Due to the influx and acceptance of these new possibilities for both users and businesses, all the more organizations are choosing to exploit electronic commerce. This concept is nothing new or novel, but over the years recent development in the domain of e-commerce has increased tremendously and it has become more commonplace and viable as a solution for customers to easily and effectively shop for products and services. One reason for users not to do an online purchase is feelings of uncertainty and dependency on the unknown, but more importantly a lack of trust for the vendor and the technology involved in the transaction. The focus of this report is on aspects of user trust in business-to-consumer e-commerce and how specific factors of e-commerce, i.e., usability, web site design, security, transference and privacy, influence user trust in e-businesses.

Eleven respondents who had some experience in e-commerce purchases were interviewed using open-ended questions to find out how they perceived trust in general and how certain factors influence their perception of trust in e-commerce. The results of this study show that usability, web site design, security, and transference and privacy, directly influence user trust in e-businesses since these factors lie closest to the user and are deciding factors for the users and influence their decisions regarding transactions in e-commerce. These results can be of importance for vendors since they show how the customers perceive trust and which factors can directly influence their trust in a vendor and their experience with e-commerce and that the factors can play a deciding role on whether or not a customer will make a purchase.

Keywords: business-to-customer e-commerce, trust, consumer trust, usability, web site design, security, privacy.

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1 Introduction

The popularity of personal computers (PCs) and recent advances in Internet technology has provided companies with a new medium for selling their products and increasing their customer base. Due to the influx and acceptance of these new possibilities for both users and businesses, all the more organizations are choosing to exploit electronic commerce (e-commerce), in both business-to-business (B2B) and business-to-consumer (B2C) commerce (Shankar *et al.*, 2002).

Through the Internet one can do online shopping throughout the whole world. The distance to a product or a service is no more than to your computer (Lundén, 2000). E-commerce is derived from the phrase “electronic commerce”. Another word for e-commerce is also online shopping. Nevertheless, this concept is nothing new or novel, since it has already existed for over 20 years. But, over the years, recent development in the domain of e-commerce has increased tremendously and it has become more commonplace and viable as a solution for customers to easily and effectively shop for products and services. This is due to the Internet and the World Wide Web (WWW), which are making e-commerce more accessible to the users (Timmers, 2000). The Internet is allowing companies to accomplish the business directly between the user and the merchant, with no intermediaries involved. Once this is accomplished, e-commerce should then be more secure and reliable for the users (Loshin and Murphy, 1997).

Building web sites does not mean enterprises can assume that the customers automatically will come as the competition is growing. Rather, the users want it to be easy to do online shopping or else they choose to do it in other ways or not at all (Nah and Davis, 2002). According to Siegel (1999) when companies build e-commerce sites, they often present their catalogues in digital format on their sites and accept online orders. These customer-adapted intelligent aids, should in some way emulate the performance of a human retailer (Siegel, 1999) and thereby provide the customer with an impression of trust and reassurance.

Lack of trust in businesses is one of the most imposing hindrances that thwart online commerce over the web (Shankar *et al.*, 2002). The bottom line is that users simply do not trust the web suppliers enough to follow through on a purchase. The most significant aspects in the relationship between vendors and users are to initiate, establish and maintain trust (Grabner-Kräuter and Kaluscha, 2003).

Online vendors can encourage first-time users to make a purchase by presenting easy step-by-step instructions, guiding them through the order process (Ott, 2000). The user should experience trust for the service offered by the vendor, during the process of completing the purchase and regarding security. Studies have shown that it is more likely for customers to make an online purchase if they feel they can trust the vendor as well as the users’ familiarity and experience of using the Internet (Corbitt *et al.*, 2003). Muylle and Basu (2004) assess that web vendors that provide assistant and support for closing the sale on their web sites are more likely to succeed than a web vendor with a weaker support.

The vendors’ web site should be regarded as a portal for stimulating interest in the customer by providing an impression of trust and reliance and by diminishing the threat of risk in connection with the purchase. Thus, it is imperative that the customer experiences a high level of trustworthiness when engaging in e-commerce transactions (Corbitt *et al.*, 2003).

1 Introduction

Due to the rapid growth of B2C commerce, mentioned earlier by Shankar *et al.* (2002), an understanding of the attitudes of current and potential users engaging in B2C commerce becomes all the more important for enterprises to acknowledge. The focus of this report is on aspects of user trust in business-to-consumer e-commerce and how certain factors influence a user's perception when engaging in e-commerce.

The structure of this report will be presented as follows. In chapter two a more detailed description of e-commerce, users, trust and factors that influence user perception of trust will be given. Chapter three will cover the problem domain and problem definition and describe the aim and objectives of the study. Chapter four will introduce method alternatives and choice of method as well as the application of the method and the setting. In chapter five the results will be presented and analyzed. Lastly, chapter six will present and discuss the conclusions as well as introduce future areas of possible research.

2 Background

In this section e-commerce and its surrounding environment involving user trust will be presented. There are several factors that are significant when concerning user trust since they are directly influential on user purchasing habits and activities. Furthermore, it is important to understand what the meaning of trust exactly entails. This section will focus on e-commerce issues, the different users, e-commerce websites, usability and the definition of trust and the problems associated with user trust in the field of e-commerce.

2.1 Trust in e-commerce businesses

The definition of trust between researchers can be found as contradictory and confusing (Grabner-Kräuter and Kaluscha, 2003). Trust has traditionally been defined as a belief, expectancy, or feeling that is deeply rooted in the personality by psychologists. Trust has also been defined by social psychologists as an expectation about the behavior of others in transactions, where focus is on the contextual factors that serve either to enhance or inhibit the development and maintenance of trust. Some schools use different approaches to the study of trust across different domains. Trust has therefore been defined by many researchers in many different ways, which often reflect the paradigms of the particular discipline. In different disciplines many researchers agree on the importance of trust in accomplish of human affairs, but it also appears to be equally widespread disagreement on a suitable definition of trust (Grabner-Kräuter and Kaluscha, 2003). According to McKnight *et al.* (2002) trust means that *a user can engage in a transaction without succumbing to negative feelings of security and risks of uncertainty*. The focus of trust as described by McKnight *et al.* (2002) is significant for this study since it is important to establish trust in all kinds of e-commerce. The implication of trust should enable the user to engage in an e-commerce and feel safe at all times during the purchasing process.

One reason for users not to do an online purchase is lack of trust (Grabner-Kräuter and Kaluscha, 2003; Koufaris and Hampton-Sosa, 2004). In many social interactions, where uncertainty and dependency is involved, trust is an important factor. Trust can be thought as a mental shortcut, which can serve as a mechanism to reduce the complexity of human behavior in situations where people have to cope with uncertainty. Grabner-Kräuter and Kaluscha (2003) are describing two types of uncertainty or risk. These are system-dependent and transaction-specific uncertainty. Risky situations imply the need for trust. Thus, transaction-specific uncertainty is of interest for this study since trust must be established if a potential transaction has elements of risk and uncertainty (Grabner-Kräuter and Kaluscha, 2003). Another factor influencing the users' perception of risk is the price of a service or product, that is, as the price of a service or product increases, the users' perception of risk for the transaction also increases. This phenomenon is referred to as price sensitivity.

McKnight *et al.* (2002) has shown that trust has an important influence on user intentions, especially when they embark on interacting with unfamiliar businesses on the web. If a user has a high level of trust, they will be less skeptical of security risks and uncertainty and more readily accept advice from the web site, share personal information and finally, make a purchase from the web site (McKnight *et al.*, 2002).

If trust is ignored by e-businesses, the enterprises might suffer since the B2C e-commerce is growing and competition is intensifying (Dutton, 2000). This phenomenon will be further detailed in the next section. Trust issues need not only to be incorporated into the design, but also to the development, management of their e-commerce systems and throughout the entire

system development lifecycle. Without trust, development of e-business cannot reach its potential (Dutton, 2000).

2.2 E-commerce

As mentioned earlier, technology enables potential customers to browse products and services from local and global vendors on the Internet from the confines of their homes (Nah and Davis, 2002). With the evolution of the WWW from a tool for gathering information to a viable economical business solution, the presence of e-commerce is steadily influencing both users and businesses (Nah and Davis, 2002). A popular way to categorise e-commerce in the industry is to talk about Business-to-Business (B2B) and Business-to-Consumer (B2C) (Pihlsgård and Skandevall, 2000). Sometimes, the term Consumer-to-Consumer (C2C) is also mentioned. Trust is important in all the previously mentioned categories of e-commerce, since all vendors want to sell their products and/or services. The term B2B commerce refers to trading between enterprises and is characterised by the fact that the enterprises usually have frequent contact and an established trading relationship. The advantages of e-commerce between enterprises are that the paperwork is reduced and that the enterprises will have faster trading which in turn gives reduced expenses. B2C commerce refers to trading between a business and a consumer. In this case there is no need for an established relationship prior to a purchase. C2C commerce is a term that is used when a user is buying something through the Internet from another user (Pihlsgård and Skandevall, 2000). Due to a steadily increasing number of users using the Internet as well as an increase in the growth of B2C e-commerce, the focus of this report is on B2C e-commerce.

Furthermore, Lundén (2000) categorizes e-commerce in two groups. These groups are direct e-commerce and indirect e-commerce. The former is when a user orders and pays for the product or a service via the Internet and the ordered product or service is delivered over the Internet. The product or service will be accessible as soon the payment is made. This form of commerce is relatively new and there are still questions to be answered, for instance, when it comes to the protection of user, marketing rules and copyrights. The latter is when a user orders a product or service and this is then delivered in the traditional way, e.g., postal mail (Lundén, 2000). It is essential in both direct and indirect e-commerce that user trust is created and established. The difference between direct and indirect e-commerce is the response time, that is, the length of time the user will have to wait from point of purchase to delivery. With direct e-commerce the response time is much shorter, or even non-existence (to humans) since delivery from the vendor is immediate as soon as the purchase is verified. On the other hand, indirect e-commerce has a much longer response time since it entails that the user has to wait several days or weeks for the product or service to be delivered. Therefore, indirect e-commerce is of interest for this study since the longer response time from point of purchase to actual delivery may also influence the user's trust for e-commerce.

Users and producers or vendors have totally different needs of the different web site goals (Rees *et al.*, 2001), but this report will focus on the user's perspective. This is shown in Table 2.1

Table 2.1. Company vs. User Web Site Goals

Site	User
Wants to make money on the Web	Wants to purchase securely
Wants to find information about customers	Wants to retain privacy
Wants to offload excess stock	Wants to buy a particular item

Even though e-commerce presents a great number of possibilities there are also several factors that can cause problems for both the e-commerce enterprise and the customers. Some of the most salient factors that should be accounted for due to their potential problematic nature are (Dutton, 2000):

- Download delays
- Interface limitations
- Search problems
- Lack of Internet standards

These problems and limitations are explained more in detail below.

Download delays

When a client has requested a data file, it takes a certain amount of time for the web client application to receive and display the inquired file. This amount of time is referred to as the download time (Dutton, 2000). Different factors in download speed, such as the size of the file being transmitted, the network infrastructure, bandwidth connection etc. influence the download time, which in turn impinge on the users' perception of trust. Download delays and lack of technological competence can cause annoyance and intolerance in users (Bhatti *et al.*, 2000; Dutton, 2000). Bottlenecking and downloading in e-commerce caused by server limitations can be controlled through effective server administration and improved network technology, but e-commerce organizations are somewhat constrained in B2C e-commerce as many times bottlenecks occurs at the client side (Dutton, 2000).

Interface limitations

E-businesses' virtual nature of e-commerce has serious physical limits of the interface even though the web browser allows a full spectrum of color images, video, and stereophonic sound (Dutton, 2000). The limitations of the interface can influence the user to hesitate and in the worst-case result in the user not making a purchase (Bhatti *et al.*, 2000; Dutton, 2000). Another problem with all electronic interactions are that the users cannot use all their senses when buying a product, and this directly impacts on the user's buying behavior. If, or when the e-business can reproduce all five senses, then it can compete or even replace traditional commerce. Nevertheless, this is only valid as long as the user requires an experience that engages the senses in order to buy, i.e., e-commerce vendors cannot compete against businesses in the physical world (Dutton, 2000).

Search problems

Trust will also be influenced by the users' levels of ability to find and locate the e-business they are searching for (Cheskin Research and Studio Archetyp/Sapient, 1999; Dutton, 2000). If they fail to locate the e-business they are looking for, after putting a limited amount of effort, the user might search for alternative e-business or abort the search altogether (Dutton, 2000). Search problems can also arise within the web site. De Marsico *et al.* (2004) explain

that users have a general idea of what they are searching for, but may have problems explicitly defining the search specifics and/or encounter difficulty navigating the web site.

Lack of Internet standards

Guidelines for developing Internet software are conformed to general acceptance in communication between applications, but there exist different Internet standards and protocols for web computing (Dutton, 2000). These different standards can cause a serious problem for users that wish to browse and purchase online, as the B2C e-commerce content provider does not control the client's technology (Belanger *et al.*, 2002; Dutton, 2000).

Many of the factors mentioned above arise from problems concerning the users and are not vendor-related, therefore they are factors the vendor has no control over. It is essential to know that there are different users and that they have different amounts of knowledge. A more detailed understanding of the users will be described in the next section.

2.3 The user

Web site designers must, of course, know how to design but also know for whom they design and why (Margolin, 1997). Faulkner (2000) suggests that before designing an e-commerce web site, the designers have to identify the users, what level of expertise they have and who they are. Once designers have identified the characteristics and needs of the expected users of the web site, they can design a web site with these in mind (Rees *et al.*, 2001). The identification of users is important since it is unlikely that all of the users will fit into the category of "average" (Faulkner, 2000), different users use the system to meet their objectives (Cato, 2001). Cato (2001) means that the designer needs to know three aspects about the users to create a design:

- *The users* – identify who the users are, what they are like, what their level of knowledge is, what they like, respectively dislike, and what they think is useful to simplify their tasks, effective and efficient, and what satisfies them.
- *The use* – what the users want to do with the system, where they do it from, what their functional needs are to simplify their tasks, and what they consider successful.
- *The information* – what information the users want and what they do with it, but also what information they give to support their utilization objectives. The information has a value or purpose and is a collection of objects.

The above aspects define the specific e-commerce domain. How the use and the information depicted by the vendor is influential on creating an image of trustworthiness for the e-business. If the designers don't know the users of an e-commerce web site, they cannot design the web site appropriately to meet the users' needs. All users have unique proficiency in using the e-commerce and all have different requirements (Cato, 2001).

Since there are a wide variety of available products and services provided within e-commerce there are an equally large number of users, each having different needs and demands on the e-businesses, regarding security, privacy and availability. As a result the users all have different demands on the level of trustworthiness they seek from the vendor. It is therefore necessary to be aware of the most common user groups in order to understand how they are influenced by perceptions of trust.

2 Background

Faulkner (2000) narrows the notion of users a step further. She claims that users grouped in an end-user class should have similar patterns of behavior, thus leading to the fact that their usability requirements ought to be similar as well. She identifies four user classes, namely:

- *Direct users* – use the system themselves in order to carry out their duties. They do not ask someone else to interact with the system.
- *Indirect users* – ask other people to interact with the system on their behalf.
- *Remote users* – do not directly themselves interact with the system but nevertheless depend upon it for its output.
- *Support users* – are supporters that help other people with their work. They are part of the administration and technical team. Some of the tasks of the support user are to ensure the smooth running of the system and provide technical support.

Once the four user classes have been identified, Faulkner (2000) places them in an additional relationship; whether or not end-users use the system as a part of their jobs. Therefore two extra categories have to be taken in consideration (Faulkner, 2000):

- *Mandatory users* – have to use the system as part of their jobs. If the system is difficult to learn and understand this is going to make the jobs even more complex and bothersome for the mandatory users. They have no choice in the matter.
- *Discretionary users* – do not have to use the computer system as part of their jobs. They can choose if they want to use the computer system to accomplish their tasks themselves. The easier the system is to use, the less time-consuming it is to learn. As a result, this more likely leads to the discretionary user to use the computer system for the particular task in hand. The computer system has to be effective and efficient to accomplish the task in time, so it will not take longer time than other methods, or else the discretionary user may choose some other way to perform his task.

One has to know what level of experience the user of the computer system has (Margolin, 1997). Margolin (1997) emphasizes that an essential fact the designer should be aware of, is the relationship between the user and the product. This is especially important in a milieu where the software products change faster than in a milieu where products change slowly or are almost unaltered. This product milieu can be more enriched by the greater involvement of more people in the product development process (Margolin, 1997). Faulkner (2000) also mentions that levels of expertise and background are necessary to examine before deciding and implementing the right type of system for the user group. She classifies the users according to the levels of expertise they have and places them into three broad categories:

- *Novice users* – have little or no experience of computers. Novices interacting with the system need frequent feedback to reassure them that they are progressing towards their goals and that everything is in order.
- *Intermittent users* – are people who use the system from time to time, or use it for periods of time and then go several months without using it again. They have the characteristics of both novices and experts. They remember broad aspects of the

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system but may need sufficient online help and adequate supporting manuals for details they do not remember.

- *Expert users* – know everything about the system there is to know. Even though the user is an expert he or she needs to utilize help systems. They will carry out tasks that are new for them and need to consult the help systems, but perhaps they will not need as much feedback and support as a novice user might need.

As shown above it can be concluded that an obvious difference between the users is that they have different levels of familiarity and need for feedback. This in turn can be proportionally related to their feelings of trust and importance of experiencing reassurance in their activities.

Faulkner (2000) makes it clear that the categories above are not in any way absolutes. They are just tools for the designers to get a better understanding of the different users. Development of human computer systems should never have rigid rules as the users are people and do not conform to rules (Faulkner, 2000).

As the number of users and functionalities continue to grow, the goals of the users also grow in size and complexity and thus it becomes impossible to satisfy all types of users, and therefore it is better to concentrate on a specific target group of users (De Marsico, *et al.*, 2004).

This report will focus on direct, discretionary users, since they are the ones who use the system themselves and they are not in any way forced to use the computer system to accomplish their tasks. Concerning the aspect of trust, it is meaningful to find out what the users using the system think of the relationship between the e-business and the users themselves. Therefore, the direct user is in focus in this report. Furthermore, it is essential that the users' e-commerce purchasing task is a voluntary action instead of a mandatory, for example, a task that is included as a necessary duty in the users' line of work.

A novice user may very well focus more on learning the system and understanding how to use it than on the task of making a purchase. It is reasonable to believe that this uncertainty for the system and fear of making mistakes might be the influencing factor that influences whether or not they carry through with an e-commerce purchase. Thus it can be difficult to discern if it is their unfamiliarity with the system and engagement in e-commerce has a major influence on their trust, or lack thereof, in e-commerce. Since intermittent users have a certain degree of familiarity with the system and engage in e-commerce enough to be comfortable with it, the unfamiliarity and uncertainty factors are most likely to be less visible. Thus, studying intermittent users can make it easier to obtain a more accurate picture of which factors influence their trust since they will not hesitate or be pre-occupied due to unfamiliarity with the system and can focus their attention more on how they perceive trust. Furthermore, expert users may also be less desirable to study, since it is possible that they put less emphasis on trust due to their familiarity with the system and frequent engagement in e-commerce and may very well have a tendency to overestimate vendors as trustworthy.

2.4 Factors influencing trust

A key function for e-commerce is to create trust between users and vendors, in both B2B and B2C sectors (Bandyo-padhyay, 2002). Trust is built upon how much confidence each has on the reliability, strength, integrity and honesty of the other. A survey done by Bandyo-padhyay (2002) showed that security concerns and a lack of faith in trading partners are the biggest factors holding back the growth of e-commerce. Organisations are increasingly becoming aware of the importance of trust for businesses and are displaying warning messages about security risks and including security as a part of their e-commerce strategies (Bandyo-padhyay, 2002).

Trustworthiness is about experience over time. Time is a key to deepening trust (Cheskin Research and Studio Archetyp/Sapient, 1999; Koufaris and Hampton-Sosa, 2004). When a customer perceives indications of manners, sensitivity and professionalism then the trusting process begins. This trustworthiness becomes strengthened over time and eventually transformed into dependability, honesty and reliability. Experience over time in commercial relationships is vitally important in making transactions simpler and thus becoming more habitual (Cheskin Research and Studio Archetyp/Sapient, 1999).

Several authors have investigated different factors that influence users' perception of trust. In this report these factors will be concluded altogether since the focus vary between the authors. The most common factors referred to are listed below and are described more in detail.

- Unfamiliar web vendor
- Vendor's visibility
- Vendor's history
- Country's legal framework
- Price sensitivity
- Security weaknesses
- Privacy
- Technology protection
- Transference
- Self regulation
- Legislation
- Usability
- Web site design

McKnight *et al.* (2002) conducted a study to investigate what factors are influential in a user's trust when first encountering an unfamiliar web vendor. More specifically, the study focused on how initial trust for the vendor influences the users' intentions to use a web site where legal advice is offered. Bandyo-padhyay (2002) mentions that high degree of trust is based on the vendor's visibility, its history, experience and the country's legal framework while McKnight *et al.* (2002) concluded that initial trust with web vendors is often established by second hand information, instead of by the user's own experiences with the vendor. In other words, the quality of the site, not the vendor is the target for the initial perception of trust. Yet, the level of site quality has been shown to be a predictable indicator of trust in the vendor. This perception of trust for the web site indicates that first time users on the site will make strong references to the vendor, and therefore, initial perceptions of trust and first impressions are of vital importance in shaping the user's trust and therefore should be considered by the vendors concerned with building a structure of trust with the user

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(McKnight *et al.*, 2002). If a user is lacking second hand information or is not directly familiar with an e-business, it might be harder for obscure e-businesses to establish trust, therefore, this report will focus on little known and unfamiliar e-business enterprises.

Dutton (2000) points out that there are several factors that sway user trust. Among these, Dutton (2000) deems that the following factors must be considered when dealing with e-commerce since they can directly influence user trust. The different components of the factors are shown in a proposed trust framework as viewed in table 2.2:

Table 2.2. Proposed trust framework by Dutton (2000).

	Technology	Transference
Privacy	Security (encryption) Download delays Search problems Limitations of interface P3P Data mining	Internet experience Business recognition Product recognition
E-commerce infrastructure	Lack of Internet standards Legislation	Self regulation (seals)

Some of the factors mentioned in the table above will be investigated in more detail in this study, since they directly influence the user's perception of trust. These are security, privacy, transference, Internet experience and business recognition. Below a more detailed description will be given of these factors.

Security weaknesses

When using the Internet as a means to conduct business, security and privacy issues are raised, where security threats exist not only for e-users but also for e-businesses (Dutton 2000). These can, for instance, involve stolen transaction information and misuse of personal information and therefore affect both parties. The transaction process itself is considered risky, both over and above the process (Grabner-Kräuter and Kaluscha, 2003). The two major security threats to e-commerce are transaction security and storage security. Transaction security is the security entailing the data exchange between parties. Storage security encompasses security measures implemented to ensure the integrity of stored data and information (Dutton 2000). McCracken and Wolfe (2004) also conclude that users are aware of how e-businesses' web sites handle their personal information, such as credit card handling. A web sites' precaution in protecting sensitive information is important for fostering trust between the parties (McCracken and Wolfe, 2004). McKnight *et al.* (2002) also proposes structural assurance as a vital factor that influences user trust, that is, the user perception of safety on the web site is important, so is the quality of the web site.

Privacy

Privacy on the Internet is worth mentioning, as individuals are aware of having their own personal space, where they are free from interference (Dutton, 2000; Grabner-Kräuter and Kaluscha, 2003) by other individuals and organizations (Dutton, 2000). They want to control or at least influence the data that other people or organizations have about them (Dutton, 2000). McCracken and Wolfe (2004) mean that if a web site gives the user a choice to give

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personal information, i.e., an optional fill in policy then this information will not be shared without a user's explicit permission.

Technology protection

The latest technological solution innovation to privacy protection is the so-called Privacy Platform Preferences (P3P), that is an Internet technology designed to increase greater levels of user trust in e-commerce web sites (Dutton, 2000; McCracken and Wolfe, 2004). This is done by providing users with important information, and to tailor relationships with specific sites and also give choices about website privacy practices (Dutton, 2000). P3P is in other words another way to create trust by preserving a user's privacy (McCracken and Wolfe, 2004).

Transference

McKnight *et al.* (2002) mention vendor reputation as a significant factor that influences user perception of trust. Transference is defined as a process where users' trust in an unknown target is influenced by trust in associated targets (Dutton, 2000). It is a mechanism where users might come to trust a company's web sites. Initial trust is therefore a key factor for a company's web sites where users may interact with them. Technical factors, such as speed, functionality and navigation, and social factors, such as Internet experience influence on transference of trust (Cheskin Research and Studio Archetyp/Sapient, 1999; Dutton, 2000).

Self-regulation

Trust and privacy can also be achieved to a certain extent by having self-regulation of the Internet, where the governments have been forced to encourage self-regulation and at the same time support e-commerce to its full potential (Dutton, 2000).

Some assurance can be provided to users by having privacy seals, but this is one of the least important decisive factors for users to determine whether or not to provide information to web sites. Organizations that carry these privacy seals attempt to transmit trust between the organization and the seal agent (Belanger *et al.*, 2002; Cheskin Research and Studio Archetyp/Sapient, 1999; Dutton, 2000). The seal agent's task is to make examinations to ensure the policies are reflected by the organization's practices (Dutton, 2000).

Legislation

One of the problems with these self-regulations in organizations, is that there is little, or no, enforcement towards the promises that are made to users, neither through privacy technology, such as P3P, or through self-regulation seal programs (Dutton, 2000). Organizations knowing that there is no enforcement are not encouraged to protect the collected data or adhere to their privacy policies (Dutton, 2000).

If a user feels a web site has a high level of risk, they will be much less willing to engage in a transaction with a web-based vendor (McKnight *et al.*, 2002). This perception of risk is often due to users being unfamiliar with web vendors and therefore it is strategically important for vendors to establish a trustworthy B2C relationship from the very beginning so as to not lose potential customers (Cheskin Research and Studio Archetyp/Sapient, 1999; McKnight *et al.*, 2002). Establishing trust is more difficult for web-based vendors than traditional physical vendors since web-based vendors are more difficult for the user to inspect and measure, especially if they are not at all acquainted with the company. Many users still view the web environment as being insecure, vulnerable to unauthorized access and fraud and exposing the users' privacy. Adding fuel to the fire, extensive media coverage regarding these issues has not helped to diminish user apprehension and uneasiness. In short, this lack of user trust

2 Background

results in user hesitation when interacting with a vendor and thus becomes a hinder in convincing the user of making a purchase. Therefore, it is necessary for vendors to implement strategies to enhance user trust so as to promote their willingness to make a transaction and to encourage greater acceptance of B2C e-commerce and web vendors (McKnight *et al.*, 2002).

Web site design

It is the designers' goal to design a web page that will capture the correct feeling of a user that will make the page and the products being advertised, more appealing to the user (Park *et al.*, 2004).

Multimedia factors implemented in web pages not only better convey information but also make the pages more usable from a cognitive aspect and affect the users' impressions and emphasize the users' appropriate feelings. However, since all users are different and unique and their needs can differ to the desires of the web page designers, it is not certain that users will experience or be affected by the intended impressions the designers had in mind. Park *et al.*, (2004) use the term "aesthetic fidelity" which they define as:

"the degree of consistency between designers' intentions and users' impressions." p. 4.

In other words, if the designers' goal is to elicit a specific feeling from the user when they visit the site, and the user responds with the intended feeling, then there is a high degree of aesthetic fidelity. A study by Park *et al.*, (2004) identified two critical factors related to aesthetic fidelity that affect the users' impressions and which should be understood by designers. These factors are: 1) appropriate implementation of relevant visual elements and 2) variability among users' perceptions of the same web page (Park *et al.*, 2004). If the users approve of an e-business' web site and feel comfortable with it, then it is more likely that they will trust the web vendor. Thus, the web site should be easy to use and simultaneously give a serious impression that reflects on the e-business' intentions.

Improving web site usability has recently become more of an issue (Chevalier and Ivory, 2003). The most effective way of ensuring usability is to establish a context of use and user profiles and characteristics early on in the design process. When considering design of a web site, there are two factors that should be contemplated. These are, the way the information is organized and presented, and how the information structure is accessed and navigated (De Marsico *et al.*, 2004). The end result is a website that presents effective and simple communication of the information content (De Marsico, *et al.*, 2004).

When designing web sites, there are several steps that should be considered, according to De Marsico *et al.* (2004). The first step is that the contents of the web site should have an adequate and complete information structure that is relevant to the expected needs of the users. The second step is to plan a strategy for the visual presentation of the web site's content, i.e., the graphical aspects and stimuli that best represent the satisfaction expectations of the users. Furthermore, the interaction the user will have with the web site must be considered and accounted for since it will influence the users' opinion about the structural organization of the web site and its effectiveness (De Marsico *et al.*, 2004). The user interaction with the web site is significant since it is also can initiate and create user trust that is vital for the e-business. Spending time on designing a good web site should be taken into consideration since it pays-off in the long run when user trust has been established.

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In other words, the core components of web design are how information is represented and visualized, how it is structured and how it can be attained (De Marsico *et al.*, 2004). Most importantly, the design should achieve in fulfilling the users' goals (De Marsico *et al.*, 2004) and meeting their needs (Chevalier and Ivory, 2003)

In order to understand the definition of usability mentioned above, and what it includes, the next section will give a definition of the term and explain in what way it influences trust.

Usability

As the number of e-commerce users grows, the quality of service of web applications has been receiving more attention since user satisfaction is an important factor that influences user tolerance (Bhatti *et al.*, 2000). Despite this fact, there has been very little attention paid to assessing user satisfaction and user-level issues based on the quality of service regarding web pages' ability to meet user requirements. Poor performance of a web site is often directly associated with a less than favorable image of the company and in turn can directly affect users' conceptions of the security of the web site. Providing adequate quality of service for web applications is becoming increasingly more important and critical for businesses relying on e-commerce as a way to expand their customer base (Bhatti *et al.*, 2000).

Several authors have defined the term usability. As a natural result there exists different interpretations for usability. For example, The International Organization for Standardization (ISO 9241-11, 1992) defines usability as:

“...extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction with which specified users can achieve specified goals in particular environments...” (p. 7 in Faulkner, 2000).

To understand the ISO definition better it is prudent to look more closely at what is meant by effectiveness, efficiency and satisfaction. De Marsico *et al.* (2004) define these terms as depicted below:

- Effectiveness – the accuracy and completeness with which users achieve specified goals.
- Efficiency - the resources expended in relation to the accuracy and completeness with which users achieve goals.
- Satisfaction - the freedom of discomfort, and positive attitude to the use of the product.

Of the three terms, De Marsico *et al.* (2004) indicate that satisfaction is the most important measure of the three when regarding reflections for the perceived quality of the user interface.

2 Background

Löwgren (1993) offers another definition of usability that is slightly more detailed than the ISO definition. Löwgren (1993) defines usability as a result of Relevance, Efficiency, Attitude and Learnability, which he refers to as REAL. These terms are more closely defined below:

- Relevance – how well a system serves the users' needs.
- Efficiency – how efficiently the users can carry out their tasks using the system.
- Attitude – the users' subjective feelings towards the system.
- Learnability – how easy the system is to learn for initial use and how well the users remember the skills over time.

Löwgren's (1993) definition seems to portray a more accurate and detailed definition of usability since he looks at issues such as learnability that the ISO definition seems to have overlooked. Yet it should be observed that the ISO definition is regarded as the accepted standard definition of usability even though it has a more general character than Löwgren's (1993) REAL definition. The definition of usability in this report will refer to ISO's definition, since the description is accepted as a standard.

Usability is important in the perspective of the web site since the user should feel that the web site is effective to achieve a specified goal and can consequently imply to an initiating of trust. Trust is also depended on the efficiency of the web site, i.e. the goals can be achieved within an accepted time. Satisfaction is perhaps the most significant component of usability since the user should get a positive picture of using the system.

Intermittent users that are using the system from time to time know roughly how to search for and navigate to meet their goals. It is therefore essential that the web site is effective. They also know approximately how long time they spend to carry out their tasks before thinking the system is too time-consuming and perhaps give up what they were going to do. The web site should then be efficient to avoid users that relinquish their goals, which also would be bad for the vendors. These both components might imply to the third component of usability, i.e. satisfaction. Satisfaction will hopefully involve a subjective feeling that is positive towards the system.

User perceptions of trust are developed and conceptualized due to several different factors and events that can directly or indirectly influence how and why a user perceives trust for an e-business. The model in Figure 2.1 shows several factors and components in different domains, industry oriented, vendor oriented and user oriented. The model also shows the flow of these factors as they progress closer to the user themselves and influence their perceptions. Furthest from the user are factors that are industry related, such as political and standardization laws and regulations, which are not things the user directly is concerned with, yet still have an impact on their perception of trust, since the vendors in turn are bound to these limitations. The vendors themselves have their own standardizations and responsibilities that are influential, and are more directly visible to the user than the industry related domain. The vendor related factors are often necessary in order to uphold the industry regulations but can also be implemented by the vendor, e.g., marketing and web site design, so as to remain competitive and in order to attract and keep customers. As the model shows, some factors and components can be found in both vendor and user domains.

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The factors and components that have the most direct influence on the user's perception of trust are those found in the user domain. Naturally, these lie closest to the user and are distinctly tangible to the user. Thus, it is these factors and components that have the most importance in shaping and conceptualizing the perceptions of trust the user has.

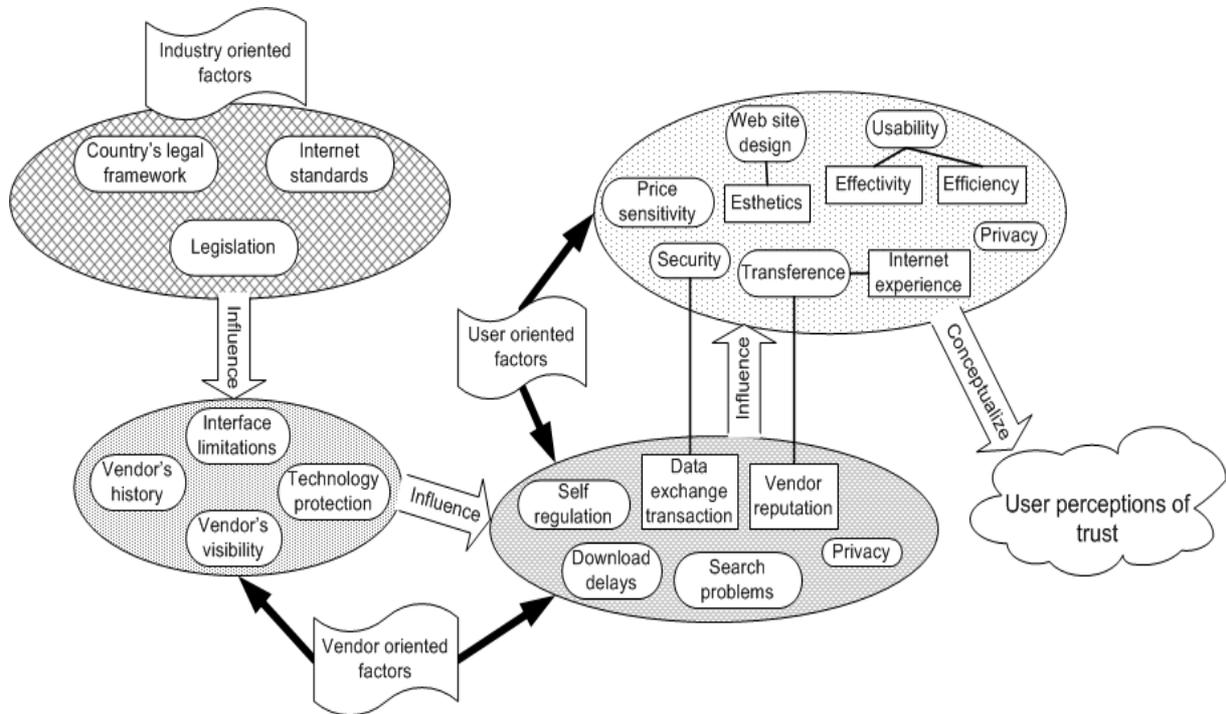


Figure 2.1. *The evolution of user perceptions of trust developed from the influence of factors and components from various domains.*

The focus in this study will be on user-oriented factors that conceptualize user perception because they are more closely related to the perception itself and therefore are seen as the ones that influence user perceptions of trust the most.

3 Problem description

E-commerce enables businesses to expand their customer base (Shankar *et al.*, 2002). Despite the advantages that e-commerce offers, its full potential can only be attained if the users feel that e-commerce offers them the same levels of trust and reassurance that they experience with traditional commerce when making a purchase (Dutton, 2000). The feeling of user trust in e-commerce is important since the individual user does not have direct contact and a physical interaction with the vendor and the products, as is possible in traditional commerce (Dutton, 2000; McKnight *et al.*, 2002). For e-businesses it is of interest to identify, understand and know how to create an establishment of trust towards a user. Therefore, it is significant to examine the users and their perceptions of trust in order to obtain an adequate comprehension of factors that can influence information before an e-commerce application is implemented. If this perception of trust is overlooked, the consequence may result in an e-commerce application not being attractive and non-utilized by users, thus resulting in a non-viable solution for the business (Grabner-Kräuter and Kaluscha, 2003).

From the view of the user, it is important that the e-business service is reliable and effective. A user will make an online purchase if it is not too complicated and time-consuming, or else the user will make a purchase the traditional way or not at all (Nah and Davis, 2002). The e-commerce application user wants to receive feedback on what is happening during the buying process so he or she constantly is aware of what is required of the user and how the process of the purchase is progressing (Faulkner, 2000). E-businesses should strive for making the users trust the concept of e-commerce so they will more readily make a purchase. To achieve this it is essential that businesses are aware of user perceptions of trust in e-commerce, so as to generate increased user trust and improve utilization of their e-commerce service (Corbitt *et al.*, 2003; Muylle and Basu, 2004).

3.1 Aims and objectives

Previous studies have shown that trust plays an important role (Loshin and Murphy, 1997; Shankar *et al.*, 2002; Corbitt *et al.*, 2003; Grabner-Kräuter and Kaluscha, 2003) in influencing and shaping user habits when engaging in e-commerce. Therefore it is of interest to study how users perceive factors of e-commerce and what influences their trust of e-businesses. In order to assess an understanding of user trust, it is necessary to map the factors that influence user perception and establishment of trust.

The *aim* of this study is to analyze and assess user perception of how specific factors of e-commerce, i.e., usability, web site design, security, transference and privacy, influence user trust in e-businesses. Furthermore, the aim is to investigate which of these factors and their components are most influential to users in regards with initiating an establishment of trust in an e-business.

In order to fulfil the aims stated above, it is necessary to investigate some objectives derived from the aim in more detail. Thus, the *objectives* for this report are:

1. To assess how users prioritize and grade specific factors and their components depending on the importance and significance they have on influencing the users' establishment of trust. The specific factors and their components are:

- Usability
Effectiveness

3 Problem description

Efficiency

- Web site design
Esthetics
- Security
Data exchange transaction
- Privacy

2. To assess why the factors and/or components are of importance to the users when regarding trust in an unfamiliar e-business, and where the price of a product is relatively high.

3.2 Expected results

The anticipated results of this study are a compilation of factors and components perceived by the users as having high levels of influence on trust of e-businesses. Furthermore the study is expected to expose an understanding of users' perceptions of the importance of the identified factors and which factors are of significance. In turn, it is probable that the results of the study will give a better description of what role user trust plays in e-commerce and which factors influencing user trust are of interest to consider for e-business enterprises.

3.3 Scope of the report

The focus of this report is on trust for e-businesses as perceived by direct, discretionary and intermittent users in B2C e-commerce when regarding factors and components within e-commerce that influence their trust. The factors and components studied in this report are confined to the domains stated in the aim above. Outlying factors that involve the e-business such as standards, legislation and regulations within e-commerce and their influence on users' perception of trust, will not be included in the scope of this study since these factors focus on the e-businesses themselves and are not of direct importance in influencing user perceptions of trust. The focus of the investigation in this study is on those factors that directly influence the users' perception of trust.

4 Method

At least one method approach has to be chosen in order to examine the problem description. There are several possible methods appropriate for this study, yet all of them have their advantages and disadvantages. The methods and their properties will be explained in more detail in this chapter. One has to take a number of factors into consideration, for instance, assess relevant answers to the questions, how much time and what means one has, and what has to be accounted for. According to Patel and Davidson (1994) it is the problem definition that determines which type of method or methods that is going to be chosen. The type of method that is chosen should give the best answer to the problem in relation to the time and the resources that are available (Patel and Davidson, 1994). The first section in this chapter will explain possible methods for this study and will explain the chosen method for the study. The latter sections will describe the application of the method and the setting of the study.

4.1 Possible methods

In order to get the questions answered in the problem definition, there are different possible methods that one can use to attain the objectives. The two different directions of the methods one can use are towards a qualitative orientation and the other one is towards a quantitative orientation. The former orientation is usually used when one wants to get a descriptive, informal and holistic approach (Starrin *et al.*, 1997). The latter orientation implements superficial and statistically representative data collection. Because the qualitative method generates discoveries and theories through participant observation, in-depth interviews and action research, a qualitative research method was deemed to be adequate.

Since the aim of the study is to investigate and assess the users' subjective conception of trust, the nature of the study limits the possible methods that could be applied to the problem definition to the domain of qualitative research methods. In particular, methods of an interrogative nature focus on descriptive *how* and *why* interrogations. Thus, qualitative methods were deemed as most suitable choice for this study over quantitative method. Due to the fact that some of the collected data had a quantitative and was statistically representative it was necessary to implement a quantitative approach in order to appropriately address the first objective as specified in the problem definition.

The appropriate methods, which adequately fulfil the aim of this study, are:

- Questionnaires
- Focus groups
- Interviews

4.1.1 Questionnaires

To address the first objective of this report, questionnaires were seen to be adequate for the first objective in the problem definition. The reasoning for this was that questionnaires are based upon having a number of pre-defined questions that must be answered with a choice of limited alternatives or by subjectively evaluating factors with a pre-defined numerical scale. Since the study uses a grading scale where the users have to assess how they prioritize and grade specific factors and their components depending on the importance and significance they have on influencing their establishment of trust, questionnaires were seen to be appropriate.

4 Method

Often questionnaires are sent out to respondents, but there are also questionnaires that can be interviewer administered where the interviewer is filling in the questionnaire together with the interviewee so as to help him or her if something is unclear (Faulkner, 2000; Patel and Davidson, 1994).

Some advantages of having questionnaires are that they are good sources of subjective responses and that they can produce vast amount of data that is useful. Some disadvantages are that they can be very time-consuming to produce and they can be misinterpreted and this can in turn imply to wrong answers. Therefore, it is important to properly test the questionnaire before giving it out to the target interviewees. A well-produced questionnaire is very time-consuming, so is an interviewer-administered questionnaire when administering (Faulkner, 2000).

Questionnaires are often used when the interviewer wants to reach out to a large target group. The method is good to use as the interviewee can answer the questions whenever he or she has time. It is important to motivate the interviewees and let them know that their contribution is essential in the examination. Other significant issues are to let the interviewees to know if the participation of the questionnaire is anonymous or not, and if it is confidential or not. The difference between anonymous and confidential is that the former cannot in a way identify the interviewee, in this case one cannot send reminder to the participant. The latter instead can identify the interviewee by having numbers on the questionnaires and correspondent to a list of names. In this case the interviewer can send reminders to the ones who yet have not answered the questions, but later the interviewer has to destroy the list of names so the interviewees cannot be identified (Patel and Davidson, 1994).

Reasons for not choosing questionnaires for addressing both objectives was that it is very time-consuming and the second objective in the problem definition required answers that are open-ended.

4.1.2 Focus groups

Since the second objective requires gathering spontaneous information from the users on why they describe the factors and/or components are of importance to the users when regarding trust in an e-business, the focus group could be seen as an appropriate way to collect this information. Some of the primary advantages of focus group interviews are that they are fast, easy and inexpensive (Templation, 1994). On the other hand, a disadvantage of focus group interviews is that the participating group members can influence each other when discussing different topics. This type of group influence was not desired in this study since the purpose of this objective was to assess individual users' perceptions without being directly influenced by other users.

Focus group interviews present the possibility of generating new ideas and factors in the discussion group. These new ideas of factors could be brought forth from the partaking members, since the discussion would be similar to brainstorming. When conducting exploratory research, one of the most frequently used form of quality method is focus group interviewing (Templation, 1994). The goal of focus group interviews is to lead a normal conversation that discusses the selected topic. The focus group discussions bring forth perceptions, feelings, attitudes and ideas about a selected topic of the group members. The focus group is usually a small homogeneous group with 6-12 members (Vaughn *et al.*, 1996).

Focus group interviews can provide with explanations of how and why people behave as they do and also get a better understanding of the members' emotional reactions to the discussed

issues. It is important to mention that the purpose of the focus group interview is not to achieve consensus building, rather it is on finding out each group member's point of view and obtain a range of opinions from the group members about issues (Vaughn *et al.*, 1996). The focus group is an unstructured, free-flowing, informal discussion group where the individuals are a temporary community and selected to talk about a specific topic or topics (Templation, 1994; Vaughn *et al.*, 1996).

Despite the advantages that focus group interviewing offer, it was not seen as a suitable method for addressing the second objective in this study, since it was of interest to investigate how the individual respondents perceived, prioritized and graded the factors presented in the problem definition as individuals without biases and influences from interaction with other respondents in a group.

4.1.3 Interviews

Interviewing with open-ended questions was seen to be an appropriate way to collect the data to address both objectives. There are different kinds of interviews that can be used to obtain information from users. One-on-one interviews comprised of mostly open-ended questions were found to be the most appropriate method to reflect the users' individual interpretation of their perception of trust as stated in the second objective in the problem definition. The advantage with open-ended questions is that they can be formulated so as to promote unrestrictive answers, i.e., questions that let the users freely describe in their answers why they perceive the factors and/or components are of importance when regarding trust in an unfamiliar e-business. This method approach was chosen to fulfil the aim of this study since other types of interviewing, such as by telephone were not considered appropriate for this study since there were no phones with a speaker available and the interviews had to be taped on a micro-cassette recorder in order to collect all of the respondents' information correctly and in full content. Interviews can also be done by via telephone (Patel and Davidson, 1994; Wärneryd, 1986). Yet, a disadvantage with phone call interviews can be that is impossible to interpret the interviewees' body language in order to get a full understanding of their replies.

During the interview process, certain problems can arise that can skew the intended meaning of a question or cause the respondent to reply with answers that do not fulfil the purpose of a question. If the interviewee does not understand a question, it is an advantage to have a direct interview where the interviewer can explain the specific question to avoid misunderstanding (Wärneryd, 1986). Another advantage with direct interviewing is that the interviewer gives a possibility to motivate the interviewee during the interview, thus making it easier to embark on a discussion, where the discussed issue can be clarified. A disadvantage is that interviews are time-consuming. According to Patel and Davidson (1994) another disadvantage is that the interviewer, irrespective of having a direct interview or by having a phone call interview, has to refer to the interviewees' willingness to answer the questions.

4.1.4 Choice of method

Due to limited resources and time constraints, questionnaires and focus groups were not deemed practical for this study. Furthermore, questionnaires with a limited number of alternatives for answers would not reflect the users' individual interpretation of their perception of trust. Therefore, interviewing the respondents with open-ended questions was deemed as being the most appropriate method for addressing the objectives of this study.

4.2 Application of the method

In this section a description of the interview questions will be presented followed by a user profile of the participating respondents and thereafter, an explanation of how the method was set up and initiated.

When dealing with questions to collect information, two aspects have to be taken into consideration. They are standardization and structuring. Standardization can range from all stages between high and low and the structure can be graded in all stages between unstructured, semi-structured and structured (Faulkner, 2000; Patel and Davidson, 1994).

In a low standardized interview the interviewer will formulate the questions during the interview and will pose the questions in an appropriate order. If instead the standardization is high, the interviewer will ask the exact same questions in exactly the same order for each interviewee (Faulkner, 2000; Patel and Davidson, 1994). Since the aim of this report is focused on trust influenced by certain factors and their components, the interviews in this study are highly standardized.

In an unstructured interview a series of open-ended questions will be asked to the user in such a manner that the interviewee can steer the interview in the direction, as he or she perceives important. In structured interviews, the interviewee will only be able to answer from a given set of responses. There is also a semi-structured interview where the interview is a mixture of both unstructured and structured questions (Faulkner, 2000; Patel and Davidson, 1994). The approach for interviews in this study is of a semi-structured nature, since the respondents in the beginning of the interviews have to be lead into one specific direction. This is done by having the answers to the questions limited to particular alternatives the respondents could choose from. After the two opening questions, which gave an understanding of how much Internet and e-commerce experience the respondents had, the remaining questions were open-ended.

The questions were categorized in three different sections. These were preparatory questions, main questions and concluding questions out of the objectives in the problem definition. The reason for having preparatory questions was to get an understanding of the user and to start off the interview in an informal manner so that the respondent would feel comfortable with the interview milieu. The main questions were to address the objectives in the problem definition while the concluding questions were set up to end the interview in a polite and pleasant manner.

Preparatory questions

First the respondents were asked about their age and then the interview itself began. The questions in the interviews are being motivated for and presented below.

Question 1 a)

How often do you use the Internet?

The aim of this question was to get an understanding of the respondent's Internet experience. For this question there were four alternatives given to the respondent. The alternatives given were the following:

1-5 times/year, 1-5 times/month, 1-5 times/week, or daily.

Question 1 b)

How often do you make an e-commerce purchase?

4 Method

The aim of this question was to get an understanding of the respondent's e-commerce experience. For this question there were also four alternatives given. These were as the previous question's alternatives, namely:

1-5 times/year, 1-5 times/month, 1-5 times/week, or daily.

Question 2 a)

What kind of products or services do you usually buy over the Internet?

Question 2 b)

From which web sites do you usually do your purchases?

These two questions were asked to get a deeper understanding of what kind of products and/or services the respondent buys and to know if the e-business from where the respondent does his or her purchase is familiar or not, therefore the questions were open-ended.

Main questions

Question 3 a)

What does the word trust generally means for you?

The purpose of this question was to let the respondents describe in their own words what trust means without influencing the respondent's reply with the next question.

Question 3 b)

What does trust means to you in relation to an e-business?

The intention of this question was to let the respondents reflect on the word trust and what it can mean in a different situation.

Question 4 a)

What makes you trust an e-commerce business?

The intention of this question was to let the respondents think of trust in relation to e-commerce and perhaps come up with their own factors that influence their perception of trust in regards with e-commerce businesses.

Question 4 b)

Why?

With this question some space was given to let the respondents express their factors a bit deeper.

The aim of the next question was to assess how respondents prioritize and grade specific factors and their components depending on the importance and significance they have on influencing the respondents' establishment of trust and why these factors were deemed important. A hypothetical scenario of an online purchase of a flight ticket with an unfamiliar vendor was given, in order to let the respondents proceed from the same point of view. To attain these answers the respondent had to grade the components of the factors and then the questions were followed up by an explanation concerning why they chose specific grade. The grades used were 1 = not important at all, 2 = hardly important, 3 = somewhat important, 4 = important and 5 = very important.

Question 5

How easy is it to find the product or service that you are looking for on the web site for making an online purchase?

4 Method

Why this grading?

The purpose of this question was to find out how important “effectivity” is to the users and why it is or is not of significance to them. This question and the next question are related to the components of “usability” factor in the problem definition.

How fast an e-business’ web sites are downloaded when making an online purchase.

Why this grading?

The purpose of this question was to get an understanding of how important “efficiency” is to the users and why efficiency was graded as the respondents ranked it. The aim of this question was to obtain the second component of the “usability” factor.

How attractive and pleasant the web site is.

Why this grading?

The intention of this question was to find out how essential the “esthetics” component is and why the users ranked it as they did. This question would give an insight whether the component of web site design as a factor is of importance or not, and why.

What the system looks like when completing the payment transaction?

Why this grading?

The aim of this question was to note if the users find the security factor and its component of “data exchange transaction” of significance and why.

Do you think revealing personal information, such as your social security or ID number, to the vendor is significant regarding your perception of trust for an e-commerce business?

Why this grading?

The objective of this question was to find out what the users think of privacy and revealing personal information to the vendor and why it effects their perception of trust.

Do you think your perception of trust would increase for the e-commerce business if they required a customer number instead of a social security or ID number?

Why this grading?

The idea of this question was the same as above, i.e., to find out what the users think of privacy, but by using a customer number instead of personal information. Also, it was of interest to see if it makes a difference in the users sensitivity of trust and why, and to find out if there is a variation in their perception.

Concluding questions

Question 6)

Is there something else that you would like to comment, add or pay attention to?

The aim of this question was to let the respondents have some time to give their opinions, viewpoints, or proposals regarding the questions, or any replies they might have found in need of clarification before concluding the interview.

Question 7)

Would you like to see the results from this study?

The aim of this question was to end the interview in a polite manner and let the respondents know they can access the final results if they so desire.

4.2.1 Pilot study

Before interviewing the respondents, a pilot study was planned and implemented, since the questions were open-ended and relatively complicated to construct. According to Patel and Davidson (1994) a pilot study is used in cases where a technique must be tested in order to collect information or if a certain setting has to be investigated in a specific way. The pilot study gave the interviewer an awareness of how the questions were constructed and understood by the respondent. A pilot study is usually performed on a smaller group that is representative for the intrinsic examination group (Patel and Davidson, 1994). The target respondent of the pilot study met the requirements set for this study, being a direct, intermittent user of the Internet and e-commerce.

A result of the pilot study was that one of the questions had to be corrected and reformulated since it was misinterpreted. Other minor adjustments were made on a few other questions with the purpose of clarifying them and reducing risk of misunderstanding. The questions presented above were reformulated and adjusted after being tested in the pilot study.

4.2.2 The participating respondents

In order to get answers to the questions in the problem definition, the respondents were required to have some prior experience of using the Internet and they also were required to have made an e-commerce purchase as well as being direct and intermittent users of e-commerce. The target group of respondents were students at University of Skövde and University of Jönköping. The respondents were approached at the libraries of the two universities and prospective candidates were asked if they were willing to partake in the study and could schedule an interview session. The age of respondents ranged from 25-40.

When planning the interviews one of the desires were to perform between 8 and 12 interviews. Another wish was also to distribute the interviews equally between the sexes.

4.3 The setting

The interviewing sessions were carried out in rooms that offered privacy and no interference from the surrounding environment. The point was to eliminate distractions from the milieu so as to enable the respondent to fully focus on the questions being asked. Only the interviewer and a single respondent were present during the session. Materials used for the interviews comprised a micro-cassette tape recorder for recording the interviews as well as pens and paper in case the interviewer or respondent needed assistance in clarifying something not easily described verbally.

4.3.1 Initiating the study

The respondents were initially approached and asked if they had engaged in e-commerce and if so, if they would be willing to partake in this study. Upon the respondents agreeing to participate in the study they were asked the first set of questions that determined how often they used the Internet and how often they made e-commerce purchases, so as to see if they fit the criterion as direct and intermittent users. Once the interviewer could determine whether the respondents fit the pre-requisites for the study, a place, time and date were booked for the interview. The respondents were then given a brief printed summary of the intention of the study and an explanation of the aim and objectives of the study and the interviewer's contact information.

The interviews were carried out individually in quiet settings and were initiated by the interviewer explaining the purpose of the study and assuring the respondents that their names

and replies would be held confidential. Additional information was given to the respondents that the interviews were structured as open-ended questions and that they were encouraged to give spontaneous replies based solely on their own feelings and thoughts. Furthermore, the respondents were informed that the interviews would be taped, transcribed and then translated into English and that all the tapes would be destroyed once the study was complete. No respondents objected to being taped. Each respondent was given the opportunity to obtain a copy of the transcript if they wished so as to examine it and verify that their answers were correctly transcribed. None of the respondents asked to see their transcription, nor the English translation.

A total of 18 students were asked to participate in the interviews, but 3 of these did not fit the criterion since the respondents had not made an e-commerce purchase. The remaining four respondents declined to participate further in the study. Altogether, 11 out of 18 respondents were interviewed during a time span of 8 days. The interviews lasted between 20 and 35 minutes with time allowed after the questioning, for the respondents to further reflect, if needed, on any questions or points that might have been unclear during the interview.

4.3.2 Valuation of collected data

All of the participating respondents in this study met the previously stated requirements of being direct, intermittent user of the Internet and e-commerce. In large, the information gathered from the respondents' answers to the stated questions addressed the objectives in the problem definition and most of the answers were comparable and quite similar to each other with only minor deviations.

At times, the forth question sometimes generated an equal answer to a previous question. The respondents were perhaps influenced by the previous question and did not think of other factors influencing them on their own or maybe they misunderstood and misinterpreted the question asked. It could also be that the question was leading and did not give the respondents an opportunity to reason for themselves.

Since the interviews were of a high standardization and the answers of the respondents were taped, the reliability could therefore be considered as high. A pilot study was also implemented so as to examine if the answers were in accordance with the intended outcome. Another thought is that the respondents in the interviews may have been slightly influenced by the introductory information about the aim of this study. The interviews were undertaken in the Swedish language since it would be the most comfortable and natural for the respondents considering Swedish being the respondents' mother tongue. After each interview, the answers in the interviews were transcribed and thereafter translated into English. The English translation could have possibly modified the respondents' original answers and slightly skewed the exact meaning but not in a such a substantial manner since the replies were relatively simple and of a plain spoken manner, absent of intricate expressions and soliloquies. On the other hand, the translation process offered more anonymity to the replies and made them harder to trace to a certain respondent, which can be seen as an advantage for the respondents' privacy and personal integrity. On the whole, the translation process was not deemed to have any major significance on the outcome of this study.

All of the interviews were realized in nearly identical milieus and were based on the same presumptions. In general the interviews were carried out without problems and the collected data was seen to have a good quality. Furthermore, the respondents had positive attitudes

4 Method

regarding the nature of the project and none had reservations or apprehensions of being interviewed.

5 Results and Analysis

In this chapter the results from the accomplished interviews will be presented, were all the participating respondents' answers are concluded for every question.

5.1 User profile of the respondents

In the following sections, a description of the results of the interviews is given (See Appendix A for a more detailed description of the data).

5.1.1 The respondents

There were 11 participating respondents in the interviews, which were randomly selected. Five of these were men and six of them were women. The age of the respondents varied. The youngest respondent is 27 years old and the oldest is 37 years. All of the respondents met to the criteria of being a direct, intermittent user of the Internet and e-commerce.

5.1.2 Internet- and e-commerce experience

All of the respondents had extensive Internet experience and used the Internet every day, except one respondent who used the Internet 1-5 times a week, which also is considered often.

Six of the eleven respondents said they make an online purchase at least 1-5 times per year and the other half engage in an e-commerce purchase 1-5 times per month.

5.1.3 Products and services bought

It was more common for the respondents to buy products over the Internet instead of services. The most common products the respondents bought through a web vendor's site were clothes, books, electronics, CDs, films, shoes, curtains, car parts, flowers, golf equipment, and tickets for movies and travels.

Many of the respondents buy their products and services from familiar web vendors and established mail-order companies, such as e.g. www.amazon.com, www.CDON.com and www.hm.com. The respondents seemed to know from where to make their online purchase and were aware of which web sites to visit. Yet, two of the respondents said they just search for the products or services desired on the Internet or had in advance been recommended to make their online purchase on a particular web site. It could also happen that they buy their products or services on different web sites every time they make their purchases.

The responses above were in accordance with what McKnight *et al.* (2002) concluded in their study, that many of web consumers in the initial phase have to learn to trust the web vendors on the basis of second-hand information, rather than their own experience with the vendors. The reputation of a web vendor is vital, since its predictive power implies an intuitive sense with the customer.

5.2 Respondents' perception of trust

The following sections describe what notions of trust the respondents had and how they perceived trust in general and for e-commerce.

5.2.1 Trust

As mentioned earlier in this study, the definition of trust can mean different things to different persons, and in different situations. This can be somewhat confusing. The respondents were

asked what the word trust means in general for them. Since the definition of trust is difficult to describe in one suitable definition, some suggestions of trust will be described from the respondents' point of view. Most of the respondents said that trust meant they can rely on somebody or something and also to know what the intentions are of the other party. Trust is something one deserves, through being honest. For one respondent trust also included that one can feel calm and comfortable when talking about anything with the other person. It is easy to lose trust in someone that does not keep his or her promises. A lost trust is very difficult to re-establish. For another respondent, trust also meant that the information one gives stays with the other person or party.

The respondents' general definition of trust was described from quite similar perspective views. The reason for this could be that people often put trust in relation to other peoples' personalities, as Grabner-Kräuter and Kaluscha (2003) mention in their research.

5.2.2 Trust in e-commerce

Trust had somewhat other definitions in relation to an e-business. This question gave the respondents a new situation to think of, where trust is of significance for many, if not all people. The most common thoughts of trust in relation to e-business are that the respondents wanted to be able to order something and get what they have paid for exactly as it is advertised on the web site and that the transaction will be as honest as a transaction in a physical store. If the respondents are to make an online purchase they want to feel that the company is serious and trustworthy and will not scam them of their money or misuse their private information. The web vendors should handle personal information with care and not relinquish or willfully release their customer records to other parties. It is also important that the ordered products should be in accordance with images in the catalogues or the web sites. Furthermore, it was of importance that the products would be delivered on time. Another item two respondents mentioned were that there should be warranties on purchases also over the Internet and right to exchange goods or money back guarantees, as is the case in the traditional market. Lastly, an item the respondents considered essential in their perception of trust in an e-business, was a good and reliable customer service.

The customers wanted the e-commerce to be similar and as simple as is found in physical stores. The reason for this could be that the customers are familiar with and trust traditional commerce and are protected by consumer protection laws concerning consumer rights and warranties that are not as clearly defined in e-commerce.

For many of the respondents, factors influencing their perception of trust in regards with e-commerce businesses were established. Almost all of the respondents wanted to make their purchase from a web vendor that is well known and has a good reputation. It means a lot to the buyers that they have received good recommendations of the e-business from others, such as friends, colleagues and so on, before making up their minds whether to making an e-commerce purchase or not. It is very important that the respondents feel the buying process is functioning in accordance with their expectations. Other essential factors that four of the respondents mentioned were that the web site design should be professional and not look too cheap with many chic colors and a wide variety of text fonts. One should also be able to see the product in a close-up picture. The buyers wanted full information about the products they intend to buy, delivery time and their rights to exchange or refund the products, as one respondent put it, "...have all information at the tips of his fingers exactly when he wants it". The security that is built into the web site is another important factor. The e-business should also have a serious image and keep in touch with their customers, i.e., keep personal contact

with the customers by e.g. e-mail. Then again, as in the previous answer one of the respondents said that customer service is important and another respondent mentioned that the web vendors should not share their customer records with others and should also handle personal information safely and securely. Additionally one respondent mentioned that they never felt completely safe and secure when engaging in e-commerce purchase.

Many of the respondents already seemed to have an idea of the buying process since they perhaps have friends or other people who have told them about their e-commerce experience. Due to these prior conceptions, the customers then expect the buying process to be in a certain way that is in accordance with their expectations, or else discrepancies will arise. It seems that users want to be able to be a part of the buying process and that this can be done if they can be involved by having some control of their personal information.

Why the respondents thought the factors mentioned above were significant were of different reasons. The familiarity is important since previous and favorable shopping experiences with the vendor made some of the respondents feel comfortable about making additional purchases and this implies to make them trust the e-commerce businesses. A familiar vendor name with a good reputation is almost equal to safety, since friends, colleagues or other people already have had a good experience with the e-business and talked positively about the shopping process. The reputation is vital, since people often listen to other people. Users often trust their friends and what their friends have experienced with a certain web vendor. If the vendors are well known and people recommend a particular e-business, the respondents can feel more at ease shopping from them for the first time.

Furthermore, it was also essential that the e-businesses' web sites were well designed, since good design gives the impression the e-businesses are serious and will put as much attention to their customers as they do on their web site. Safety and security are important, as the information the user is giving is private and personal. The users do not, in any way want the information to be easily tracked and traced to them with regards to credit and debit cards, e-mail addresses and other confidential information. Thus, it is a priority for the users to be able to influence their own privacy information.

The users established a feeling of comfort and trust with the vendor when all the information they desired and needed concerning their purchase, was accessible and easy to find. A good customer service is essential for the customers in order to make an untroubled online purchase where they do not have to spend too much time and have to worry about their engagement in an e-commerce purchase. Therefore, the buyers want to be able to contact the e-business in case something might be wrong or they need to inquire or clarify certain issues regarding their online purchase. Since the online customers in an e-business cannot use all of their senses in order to decide whether to make an online purchase or not, as in the traditional way, it is vital for the e-businesses to meet to all the customers' requirements so as to acquire the customers' favorable perception of trust.

Since the customers are the targets of the vendors' objectives, it seems like the customers expect functionalities to be easy and accessible whenever they wish to interact with them. They want to feel some kind of power in the buying process and want the purchase to be on their conditions.

5.3 Grading of the components

The last part of the interviews focused on the hypothetical scenario and the respondents' grading of the components depending on the importance and significance they had on influencing their establishment of trust in relation to making a hypothetical online flight ticket purchase from an unfamiliar vendor. The scale used was from 1 (not important at all) to 5 (very important). The collected data from this part of the study is presented in Figure 2 below, where the average grading for each component by all respondents is presented. Furthermore, the average for each component was computed depending on the respondents' sex to see if there were any significant differences between male and female respondents.

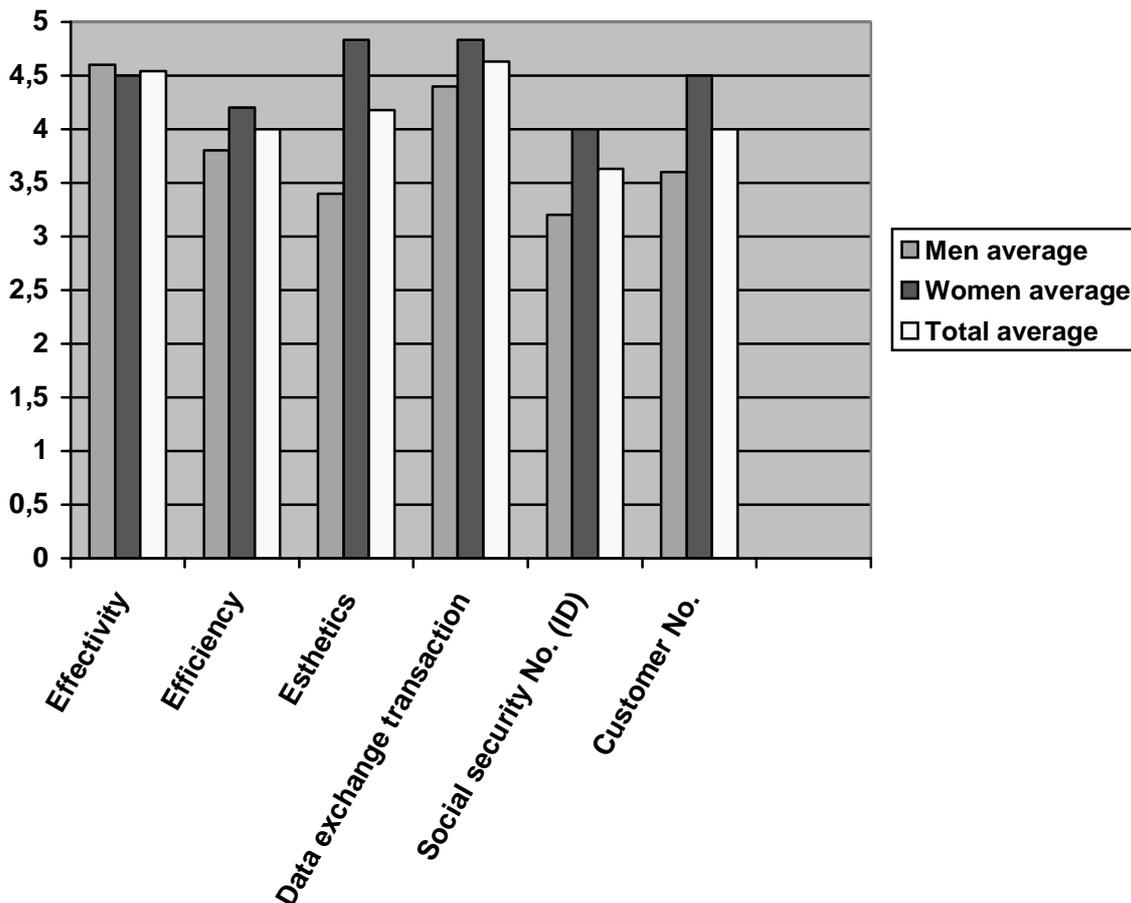


Figure 5.1. A graphical grading of the factors/components that influence user trust. The columns show the components being graded and the rows show the average grade of the factors and components as graded by the male and female respondents and the total for both sexes.

The interviews also yielded data explaining why the respondents chose the specific rating for each component. The results from the data collected in this phase are described in more detail below.

5.3.1 Effectivity

Almost all of the respondents said that if they could not find what they were looking for easily, then they would not bother spending too much time on that particular web site. They

would rather try to find what they were looking for on another web site, which has the same products or services, or find similar products or services somewhere else. Many of the online customers do not have time, patience or peace of mind to spend their time on searching for items or artefacts. In their minds, it should not be more complicated to make a purchase via the Internet than with traditional stores. A serious company most likely puts time and resources on their web sites to make it easy for their customers to navigate and find what they are looking for.

In today's modern society, time is perceived as a precious commodity and therefore is not to be wasted on searching for items. Whenever the customers want to find something it should be easy and effective to find the web site and the product or service they are looking for.

5.3.2 Efficiency

Many of the respondents said, as was the case with effectivity, that they do not want to consume too much time on web sites downloading. If it will take too much time, then they will go to another web site to make an online purchase. The reason for not wanting to wait too long is that the customers do not want to make an effort when purchasing over the Internet. It should not be more difficult and complicated to make a purchase through the Internet. If the e-businesses' web sites have too many gadgets or pictures that take time to download, one respondent meant that "the e-businesses do not think of all their customers", i.e. that some customers might have slow Internet connections. By taking time to make it convenient for all customers the e-businesses show that they are willing to take consideration and time for individual customers. As mentioned earlier with effectivity, a serious e-business most likely puts time and resources into building and maintaining their web sites. Only one respondent said that when making an online purchase, time is not an important factor for him.

Even efficiency has to do with time, and often, as with effectivity, is valuable for the customers. Yet, some customers take some time to make an online purchase without having time on their minds.

5.3.3 Web site design

Almost all of the respondents agreed that web site design was important. If the companies put more effort into the web site design, the more they seem to care for their reputation, since it gives a serious impression. If the web sites look messy, cheap and are poorly constructed, the customers would think twice if the e-business was serious and perhaps would not dare to buy anything, bearing in mind all information they were given. Three of the respondents said they thought finding products or services on a web site were more important than the esthetical design. One of these three respondents also said that if the price was right for the products or services, then one could think of buying from that vendor anyway. The respondents concluded that making an online purchase should be a pleasant experience.

Web site design seems quite important since it is there the customers interact with the vendor, and the interface design shapes the vendors' external profile.

5.3.4 Data exchange transaction

Some of the respondents said that they wanted the payment system to have information about how any private and confidential information would be used so they could feel comfortable with the system. They also wanted to have information regarding the security of the payment method and transaction. Two of the respondents said the system should look professional and trustworthy when completing the payment transaction. Another thing is that the e-businesses

should have a good payment solution. Others mentioned that it is important that the system is easy to use and has easy provisions for access. Therefore, feedback is necessary in order to be sure of that the transactions are performed correctly.

Data exchange transaction was the highest graded factor that influences user trust most. It might depend on that money and personal information are involved in the process and then people often want to know how their information is going to be handled.

5.3.5 Privacy – social security number

Six of the eleven respondents said they did not like giving out their social security numbers to the e-businesses, since this number is directly connected to the person connected to the information accessed by the number. These respondents said it felt uncomfortable to give out their social security numbers as the information could be easily traced back to them. Two of the respondents declared that they do not like this kind of information be handled over the Internet. Two others of the respondents said they did not like to give more information than necessary, especially when not understanding why the vendor needs some information about them that is irrelevant for the purchase and transaction. An example of this was one of the respondents expressing himself by saying, “Why would a CD-company like to have my social security number?”. Four of the eleven respondents said they had an understanding of giving out some personal information about themselves, because they knew that some e-businesses are aware of controlling what kind of customers they have. One respondent said that revealing personal information depends on how the payment is done. If the payment is done by an invoice then there is an understanding that the web vendors need personal information, but not if directly paying from the account.

Social security number is acceptable for many people to use if they know what the purpose is of giving it to the vendor. Some of the respondents that had an understanding of why the vendors need the social security number could be that they were thinking of e.g. when buying flight tickets. Then often the social security number is needed in order to issue a ticket. It is more sensitive to give this kind of information if the customers do not know how and why the social security number is going to be used.

5.3.6 Privacy – customer number

On the question if the respondents’ perception of trust would increase when using customer numbers instead of social security numbers, four of the respondents said they preferred customer numbers, because they would feel more comfortable when it is not as personal as a social security number and it looks more professional using customer numbers. Furthermore, it was felt that customer numbers would also increase the sense of privacy. Two of the respondents said it did not matter if customer numbers were used instead of social security numbers, since it was almost the same thing. They meant that if the payment method needs a social security number then it is all right to use whatever kind of number the payment requires.

The use of a customer number might increase perception of trust since the number is not directly connected to the person. Some people do understand that vendors need to use some kind of number in e.g. data exchange transaction in order to fulfil the payment process. It is more likely that the customer numbers is preferred over the social security number since the former is indirectly connected to the customer.

5.4 Respondents' individual grading results

In this section more detailed information of the respondents' prioritizing and grading is presented. Table 5.1 shows the individual grading results given by all of the respondents. One respondent declined to give a grading for "Efficiency" and two others did not supply one for "Privacy customer ID number". The explanations they gave to the interviewer were that the grading did not apply to them, that they did not know or that these factors/components did not matter for them when regarding trust (see section 5.3 for further details concerning why they answered as they did).

Table 5.1. Individual grading of factors/components

		Factors / Components					
Respondents		<i>Effectivity</i>	<i>Efficiency</i>	<i>Web site design</i>	<i>Data exchange transaction</i>	<i>Privacy Social security number</i>	<i>Privacy customer ID number</i>
	1	4	3	4	3	4	4
	2	4	5	5	5	5	5
	3	4	-	5	5	4	5
	4	4	4	4	5	5	5
	5	5	4	5	5	3	-
	6	5	5	5	5	4	3
	7	5	3	5	4	3	-
	8	5	3	3	5	3	4
	9	4	3	3	5	3	3
	10	5	5	3	4	4	4
	11	5	3	4	5	2	3
Average:	4.54	4.0	4.18	4.63	3.63	4.0	

As seen in the table above, the average is highest and most prioritized for the data exchange transaction. The least average is for privacy regarding social security number.

All the factors or components have quite high gradings, which can imply that the factors or components are of significance when regarding users' perception of trust. This can mean that the mentioned factors and components verify that they are closely related to the user-oriented factors. Somewhat surprisingly was that the customer number was more highly graded than the social security number. The reason for this can be that the eleventh respondent had an understanding for vendors using social security numbers and therefore did not grade the component as important.

6 Conclusions and Discussion

The following chapter will present the conclusions drawn from the results of this study and will be further discussed and reflected upon in the discussion. Finally, a few aspects for future research will be presented and discussed at the end of the chapter.

6.1 Conclusions

The aim of this study was to analyze and assess user perceptions of how specific factors of e-commerce influence user trust in e-businesses, and which of these factors and their components are most influential to users in regards with initiating an establishment of trust in an e-business.

The respondents' general definition of trust was described from quite similar perspective views. On the other hand, trust had somewhat other definitions in relation to an e-business. The most common thoughts of trust in relation to e-business were that the respondents expected to get exactly what they paid for as it was advertised on the web and that the transaction proceeded without problem and in an honest manner. The respondents exemplified this by comparing their feelings of satisfaction and comfort when making purchases in traditional physical stores versus online purchases.

When concerning the factors that influence the respondents' trust, they felt that navigating web sites and finding the product or service they are looking for should be easy and effective. Neither did the respondents expect or want to wait too long when purchasing over the Internet and felt that it should not be more difficult and complicated to make a purchase through the Internet. Web site design was shown to be quite important since it is there the customers interact with the vendor, and the interface design shapes the vendors' external profile and how the respondents' initial feeling of trust will be with the vendor. Data exchange transaction was the highest graded factor that influences user trust most since personal information and money are involved in the process and people often want to know how their information is going to be handled and that they will not be at risk of losing money. When grading the factors or components, the respondents gave quite high grades for all of them, which can imply that the factors or components are of significance when regarding users' perception of trust. This result could verify that the mentioned factors and components were closely related to the user-oriented factors as suggested in the user trust evolution model.

The results of this study show that specific factors of e-commerce, i.e., usability, web site design, security, transference and privacy, directly influence user trust in e-businesses since these factors lie closest to the user and are most prominent for them when they engage in online purchasing transactions. This information is of importance for vendors to be aware of since it can play a deciding factor on whether or not a customer will make a purchase from the vendor. The results of this study have shown that these factors that directly influence user perceptions of trust are evolved from other factors that lie closer to the vendors and industry regulations, standards and legislation. Thus it has been shown that it is not enough for a vendor to just rely on meeting these requirements established by industry and country regulations and legislation but instead they need to be aware of how the customers perceive trust and which factors can directly influence their trust in a vendor and experience with e-commerce.

6.2 Discussion

The results of this study show that there are several factors that directly affect user trust in e-commerce. The impact of this study can influence how e-commerce businesses design and construct their web sites and conduct their enterprises. As was shown in the study, the definition of trust can vary amongst the users based on different situations and personal traits of the users, and that trust differed to them in a general sense from e-commerce specifically. Yet, they all seemed to have a similar perspective on the general meaning of trust, whereas the meaning of trust in relation to e-business could have more different meaning. In the latter meaning they expected a web site to provide them with the services or products as explicitly advertised and that they felt comfortable in doing so, without having to hesitate or second guess their purchase. Of importance to the vendors is the fact that customers can feel hesitant or uncomfortable when dealing indirectly with vendors and that the users want to feel the same security when making purchases as is done in physical stores. Furthermore, the vendors need to be aware that the users feel that it are of utmost importance that their privacy and integrity is kept intact and that any information the vendors acquire from the users will only be used for the processing the purchase and will not be forwarded to other vendors or used for other purposes. Since security and privacy are of such importance to the users, it could be of interest to investigate more closely how this factor affects their experiences with e-commerce.

Most of the respondents seemed to indicate that their perceptions of trust for e-commerce were directly influenced by the factors mentioned in this study. On the other hand, the formulation of the questions may not have had the effect of explicitly eliciting answers that could distinguish whether it was the respondents' perception of trust in general or for e-commerce that were directly influenced by the factors. In other words, it may have been difficult for the respondents themselves to keep trust in e-commerce in their minds instead of their view of trust in general. An attempt to keep the respondents' focus on trust in e-commerce was done by using a hypothetical e-commerce scenario where the respondents were to reflect over how they experience making an online flight ticket purchase. Despite this concrete example it still may not have been possible to maintain the respondents' focus on trust in e-commerce and instead of trust for the airline industry or for traditional purchases in general. Furthermore, some of the respondents might have been influenced by previous experience with online purchase within the travel industry whereas others may not have had any experience with online ticket purchases and may have perceived the situation differently. It might have been better to choose a scenario that the respondents had actually experienced.

What this study did not reveal in detail was how users who were less experienced in using the Internet felt about trust. It might be possible to assume that their unfamiliarity with the technology and general conceptions of online privacy abuse, fed by media coverage and myths of abuse, may influence their overall conception of trust in e-commerce. Neither did this study specifically focus and investigate the impact one specific factor influencing trust may have on the users. Instead, the purpose was to find out how these factors, as a whole and in relation to each other, played a role in shaping and influencing consumer trust in e-commerce. Another aspect that was not investigated was assessing how the individual respondents' grading replies compared to their previous comments regarding trust in e-commerce. In retrospect this may have been accomplished in this study, but would have required some changes in the question formulations. This was not possible since the study was already underway when the inspiration for this idea revealed itself as an interesting point of study.

6 Conclusions and Discussion

The results of this study were in line with the expected anticipations formulated in the problem chapter. The factors influencing trust were defined and shown to play an important role in consumer trust in e-commerce. Furthermore, the study was able to present a better understanding of the users' perceptions on these factors and how significant they were in shaping their trust. The compilation of the results also revealed how the users consider the importance of certain factors over others and in turn can give vendors an understanding of what to prioritize when attempting to win over the trust of customers.

Concerning the information gathered from the interviews, it could be assumed that other interview techniques, such as closed questions might have given more explicit definitions of how users perceive trust. For example, most of the respondents seemed to have difficulty in being able to spontaneously define what trust meant to them, in general and then transferred to e-commerce. Using closed questions with a limited number of alternatives very well may have given more concrete answers and definitely data that was more easily handled and interpreted, but the results may not have been as useful in defining such feelings and perceptions of a subjective nature. In other words, the true meaning of the respondents' answers might not have been reflected. On the other hand, questions asked later on in the investigation might have been influenced by bias from the answers the respondents gave earlier on. An option to counteract this would be to juggle the order of the questions for each respondent, but this could pose other consequences and uncertainties regarding the validity of the results. Another factor that may have influenced the results was the fact that the interviews were transcribed and translated into English, thus posing the risk that some meaning and explicit expressions may have been lost or misrepresented in the translation due to the fact that explicit semantics of some words and/or phrases simply become lost in the translation. Even though this problem was not perceived to be a disrupting element, it must still be considered when interpreting the results. Grading the factors using a scale of 1 to 5 was seen as an efficient way to obtain a concrete perception of how the viewers felt the factors influenced their trust when making an online purchase. Yet, they were not asked to grade the factors in relation to each other but instead the idea was that they thought and reflected over each factor independently. The outcome might have been different if they had graded them and ranked them in relation to each other and been able to explain why they chose one before the other.

The results can be generalized only to the extent that these factors are important and play a role in shaping the perceptions of trust in users. Since the number of participants in the study was limited to a small group of people having a similar denominator, that is students, the results cannot be generalized over the general population, but can be used as a guide when concerning a tendency in a population group. A bias to consider could be that the participants in the study are positive to e-commerce and were interested in the topic investigated. The results can still be seen as satisfactory when considering the time constraints and resource limitations that were posed on this study and can be used to develop further research within this area.

6.3 Future research

From the results of this study it was learned that specific factors of e-commerce, i.e., usability, web site design, security, transference and privacy, directly influence perceptions of user trust in e-businesses. While the study progressed it became apparent that some issues relating to this study became prominent and worthy of reflecting over as possible aspects to further study in order to get a better understanding of the consequences of the results from this study. The following is a presentation of some interesting ideas and aspects for future research.

6 Conclusions and Discussion

- Investigate how user perceptions of trust based on the above factors, actually influence users in a hands-on milieu, that is, instead of answering questions in regards to hypothetical situations, the respondent would do this while interacting with a web site, that is, going through the motions of making an online purchase. Such a study could give a clearer understanding of how the users perceive these factors influence their trust when actually engaged in an e-commerce situation instead of reflecting on their actions done in the past. This could provide for more accurate answers that correctly reflect the respondents' spontaneous feelings and reactions and not have to rely on memory from actions that may have taken place in a distant past.
- Investigate how users who are novices in both e-commerce and using computers consider the above mentioned factors of trust as influencing their decision to make an online purchase or if it is their lack of computer competence and familiarity that are the influencing factors. Here again, such an assessment would probably yield more accurate information regarding the users' perceptions and experiences if done in a simulated situation.
- Expand the study to investigate the possible differences of user perceptions of trust between male and female respondents. This could be interesting for vendors who target their products or services specifically a male or female customer base.

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Appendix A: Interview data

Internet experience

- Every day
- 1-5 times per week

E-commerce experience

- 1-5 times per year
- 1-5 times per month

Products and services bought

- Books, films, Cds
- Clothes, shoes, curtains
- Car parts, electronics, golf equipments
- Computer parts
- Tickets: movies, travels
- Flowers, natural medicines

Visited web sites

- Amazon, Bokus, CDON
- Ginza, 2for1, Adlibris
- H&M, Haléns, Ellos
- Haburi, net-on-net, e-bay
- Komplet, SF, SJ
- Interflora, lowprolog

Generally meaning of the word trust

- Reliability
- Honesty
- The feeling of being calm and comfortable

Meaning of trust in relation to an e-business

- To receive the products they have paid for
- Transaction being as honest as a transaction in a physical store
- A serious and trustworthy company
- Personal information handled with care
- Products in accordance with images in the web sites
- Delivery on time
- Warranties, right to exchange goods or money back guarantees
- Good and reliable customer service

Factors influencing trust an e-commerce business

- Well known vendor with good reputation
- Web site design being professional
- Full information about the products
- Embedded web site security
- Vendors having personal contact with the customers
- Good customer service
- Customer records handled safely and securely
- Critics and recommendations from friends

Why the above factors are vital

- Familiarity is important since the respondents feel more comfortable
- Familiar vendor name is almost equal to safety.
- Users listen to other users
- Users trust other people
- Well designed web site gives impression of being serious
- E-businesses should be available for the customers
- To get a feeling of what service the company has

Effectivity

- Product and/or service searched for should be easy to navigate and find
- The purchase should not be more time consuming and complicated than the traditional purchase
- Expect the web vendors spending time and resources on their web sites

Efficiency

- Do not want to spend too much time on downloads
- The purchase should not be more time consuming and complicated than the traditional purchase
- Expect the web vendors spending time and resources on their web sites
- Should be convenient for all customers

Web site design

- A well designed web site gives impression of trust since the e-business seems to care about their reputation
- If the price is right on a less well designed web site, it would compensate the poorly designed web site
- Should be pleasant to make an online purchase

Data exchange transaction

- Embedded web site security
- How private and confidential information is used

Appendix A

- System should look professional and trustworthy
- A good payment solution
- The transaction should have some kind of feedback
- System should be easy to use

Privacy – Social security number (ID)

- Uncomfortable to give out social security number
- Do not want this kind of information be handled over the Internet
- Do not want to give more information than necessary
- Some have an understanding of giving out their social security number

Privacy – Customer number

- Customer numbers are preferred over the social security numbers
- It looks more professional using customer numbers
- Feel of increased sense of privacy
- It does not matter what kind of number is used – quite similar