



The contribution of popular trust mechanisms to the growth of the Dutch e-commerce market

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Abstract

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The growth in the use of the internet and e-commerce is accompanied by new challenges. The distant and impersonal nature of e-commerce and the use of a global open infrastructure for transactions have rendered risk an inevitable element of e-commerce.

This research addresses the contribution of popular trust mechanisms to the increase of consumers' purchasing likelihood and the growth of the Dutch e-commerce market. According to the 'Theory of Reasoned Action' trust mechanisms mitigate overall perceived risk and increase consumers' purchase intention.

For an effective design of the survey, a research framework was developed. A non-probability sampling method was applied, namely snowball sampling, and an online survey research employed. The findings indicate that the main contributors to the growth of the Dutch e-commerce market are familiarity with the online vendor and vendors' reputation. The other conclusions are: encrypting sensitive information lowers perceived financial risk; online product feedback mechanisms have a positive influence on product performance risk, and third party assurance (only for some assuring companies) has a positive influence on psychological risk.

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Chapter 1. Introduction

1.1 Introduction

In 1995 the internet became a widely used service. Today we can not imagine a world without the internet. The internet has become an important aspect of our lives. More and more people use the internet, young or old, educated or not educated, man or woman. The importance of the internet is reflected by the following numbers. In 1995, only one percent of the Dutch population used the internet. The group that did use the internet largely consists of young and highly educated people. People of 65-plus barely used the internet. In 2005 only one percent of young and educated people did not use the internet, while the group of 65-plus internet users increased to 30 percent. (Source: CBS, Webmagazine 2005).

Large companies and multinationals became aware of the many promising opportunities the internet provided and took this opportunity to do online business. The world was introduced to a new phenomenon: e-commerce¹.

It instantaneously became much cheaper to address millions of potential consumers. Also, aspects such as one-to-one marketing became much cheaper and faster to realize.

The internet presents companies many opportunities to increase their sales and profits, by allowing them, for instance, to reach more (potential) customers at lower costs. It also allows companies to offer retail interfaces with highly interactive features that offer assistance to customers when evaluating or making purchase decisions (Häubl et al. 2000).

The internet not only offers advantages to companies, but also consumers gain advantages from engaged relationships with stores in the virtual environments. According to Wolhandler (2002) the Internet allows consumers to browse for products or services extensively, locate information, download information, compare prices, collect data, place and or change orders, buy products and receive feedback without travelling to a shopping mall. Consumers can browse or shop online 24 hours a day, 7 days a week, from office or at home. The main reason why shoppers buy online has been reported to be convenience. Additional factors that contribute to a more enjoyable shopping experience on the internet are: saving money and time, no transportation cost, more choice, no waiting lines and no pressure from sales people.

¹ The electronic business or electronic commerce, e-commerce, is defined by Wignand as 'any form of economic transaction conducted via the internet. Van Slyke (2004) and Lyer (2003) characterized the electronic commerce as: 'the process of carrying out business transactions over the internet'.

With the continuous growth of the electronic business and the corresponding increase in competition, more and more companies employ this virtual retail channel (Novak et al. 2000), either as a substitute channel or as a complement to strengthen their tradition brick and mortar retail outlets. This development is also seen in the Dutch market.

Several companies in the Dutch market employ the internet to inform and interact with their customers. The companies in this market range from:

- banks (all major banks allow their customers to handle their banking business on-line) to
- supermarkets (e.g., Albert Heijn N.V., Bas van der Heijden B.V., Plus supermarket B.V.; all inform and interact with customers on-line, while Albert Heijn N.V. even allows actual grocery shopping),
- clothing stores (e.g., Hennes & Mauritz N.V. and Otto; interact and inform customers and allow on-line shopping), and
- other kind of retailers (e.g., Wehkamp B.V., Kruitvat N.V., parfumerie Douglas B.V. and even restaurants; all inform the customer and allow for interaction, and some also allow on-line shopping).

Research with regard to the growth of e-commerce has demonstrated that understanding and anticipating on customers' behavior is becoming increasingly essential for companies. The relevance for the companies is due to increasing competition for a share of the growing e-commerce market and the awareness of the consumers as a consequence of technological developments (Novak et al. 2000). Companies that succeed in understanding and anticipating on consumers' behavior can gain advantages over their competitors by creating customer offerings considering their needs and wishes (Swaminathan et al. 2003 and Burke 2002).

1.2 Barriers to the further diffusion of e-commerce

More and more companies exploit the Internet to generate revenues from selling their offerings to their target consumers (Swaminathan and Tayur, 2003). This statement also holds for the Dutch market. Statistics (Source: CBS, De digitale economie 2007 / www.cbs.nl) indicates an annual cumulative growth of 3.4% in 1999 to 10.1 % in 2006. According to a study by the Forrester institute, the Dutch e-commerce market will grow to approximately 11.8 billion euro in nominal terms in 2011, Euro 2.2 billion in 2005, making the Netherlands one of the fastest growing e-commerce countries in Europe (Source: Blauw Research, Thuiswinkel.org, April 2005).

Along with e-commerce however, new challenges developed. The distant and impersonal nature of the e-commerce and the use of a global open infrastructure for transactions have rendered risk an inevitable element of e-commerce.

Forsythe et al. (2003) mentioned several authors who believe that in-home shopping is considered to have of a higher risk level than shopping in an actual store. According to these authors, this is due to the fact that consumers lack the opportunity to carefully inspect the products on-line prior to their purchase, possibility of their sensitive financial information being stolen and privacy concerns. Besides, returning unsatisfactory products is not effortless.

In order to fully deploy e-commerce in The Netherlands, it is relevant to understand the resistance² to e-commerce and to investigate how the effectiveness of trust-building mechanisms on Dutch consumers can be improved.

1.3 Trust building strategies and the Dutch e-commerce market

The main objective of this research is to reveal how trust-building strategies³ affect Dutch consumers' purchasing likelihood and to what extent the growth of Dutch the e-commerce market is effected by these trust-building strategies. Understanding and knowledge of the consumers' current status regarding online shopping is essential for companies to successfully market their products in such a way that the customers will proceed to shop with higher frequency via the internet.

To mitigate resistance and to enhance consumer trust, many e-retailers⁴ are experimenting with various trust-building strategies. In many research papers these trust-building strategies have been analyzed. (See literature review). According to the literature (Kimery.K, M. McCord, 2002; Patton.M and Josang.A. 2004; Einwiller,S. 2003 et al.), the most commonly used trust-building strategies are:

1. Encrypted transactions
2. Online feedback mechanisms
3. Third-party assurance (TPA's)
4. Familiarity with the online vendor
5. Vendor's reputation

² Resistance of e-commerce is defined as the likelihood not to engage in an online transaction.

³ Trust mechanisms and trust building strategies are considered synonyms and will be used indifferently throughout this thesis.

⁴ E-retailer, online retailer, web vendor and online vendor are considered synonyms and will be used indifferently throughout this thesis.

These trust mechanisms affecting the customers' purchase likelihood over the internet are addressed in this research. Online vendors devote much of their time to these trust-building strategies with the expectation that doing so will facilitate consumer trust and stimulate increased online sales.

The effectiveness of these trust-building strategies is dependent on some preconditions such as: familiarity with the internet and e-payment methods. These preconditions will not be tested during the research. The growth of the e-commerce market can be the consequence of many factors. In this research only the enhanced disposition to trust caused by the earlier mentioned trust mechanisms are investigated. Other factors such as technological developments and the general familiarity with internet are not in the scope of this research.

1.4 The research question

An increased disposition to trust will lead to a higher chance to engage in an online purchase. In this research the resistance to e-commerce of Dutch consumers and the effect of the trust-building mechanisms on consumers' disposition to trust, will be tested. The **main research question** for this thesis is: 'To what extent do trust-building strategies affect consumers' purchase likelihood, and to what extent is the growth of the e-commerce market caused by these trust-building strategies '. To conclude the research question we need to take a closer look at, and do some research regarding the resistance against e-commerce and the effectiveness of the trust-building strategies. Besides the main research question some additional questions are formulated that are supportive to the main questions, referred to as the central questions.

Central questions

The following **central questions** are answered through research:

1. To which specific trust-building mechanisms are Dutch e-commerce consumers most responsive?
2. What other factors may have influenced the growth of the Dutch e-commerce market?
3. To what extent have the trust-building mechanisms contributed to the growth of the Dutch e-commerce market?

1.5 Methodology

To come to a valid conclusion regarding the contribution of trust-building mechanisms to the growth of the Dutch e-commerce market an online survey is conducted. The web survey method is a natural filter that excludes responses from ineligible respondents, people who do not have access to the internet. The survey consists of 30 closed questions. The statistical software program, **SPSS** is employed for data analyzation. The survey is based on the research framework. To prevent an ambiguous survey, the first draft questionnaire is pre-tested. The feedback of the pre-test is incorporated in the final design after careful assessment. With the answers of the survey hypotheses will be tested.

1.6 The contribution of this research and prior research

Although there is much research available (Sweeney JC et al. 1999, Burke and Raymond 2002) regarding the resistance towards e-commerce and the relevance and the effect of different trust mechanisms on e-commerce consumers in various countries, there is little to no research available on the effect the indicated trust mechanisms have on Dutch e-commerce consumers. Prior research, conducted outside the Netherlands, shows that different trust-building strategies have a low impact on the disposition to trust (Kathryn M Kimery; Mary McCord 2002, Gefen 2000).

The outcome of this research will provide more insight in the impact of trust-building strategies on the (further) development of the Dutch e-commerce market.

Besides, this investigation will contribute to a better understanding on how customers in the Netherlands experience and perceive the internet, especially the safety aspect, as a virtual shopping environment. It will also become clear to what trust-building strategies Dutch e-commerce customers are most responsive.

1.7 Chapter Overview

The thesis is organized as follows:

Chapter 1 is an introduction to the research subject. Relevant literature, the main research question and the central research questions, are discussed.

Chapter 2 provides a research framework that is at the base of this research. Perceived risk and trust are major elements of this framework. The different types of risk and the relation

between overall perceived risk and trust, relevant in online transactions, are further explained. Chapter 3 elaborates on the selected trust-building strategies which are frequently applied in online transactions. The related hypotheses to test the impact of the selected trust building strategies on the growth on the Dutch e-commerce market are also introduced.

- Chapter 4 summarizes the research design. The reasoning for the selection of a non-probability sampling method is explained.
- Chapter 5 expands upon the findings of the survey, the hypotheses and the central research question of this thesis .The limitations of this research are also stipulated.
- Chapter 6 presents the conclusions and recommendations for follow-up research.

Chapter 2. Implications of risk and trust on E-commerce

2.1 Introduction

In this chapter the theoretical background of the research is discussed. For a better overview of the research methodology, a research framework, see figure 1, is presented to visualize the relationship between the various variables. In the following sections of this chapter the research framework, the elaboration of the risk areas, the trust-building strategies, the theory of reasoned action, and Dutch legislation, are also discussed, see figure 1, Research framework.

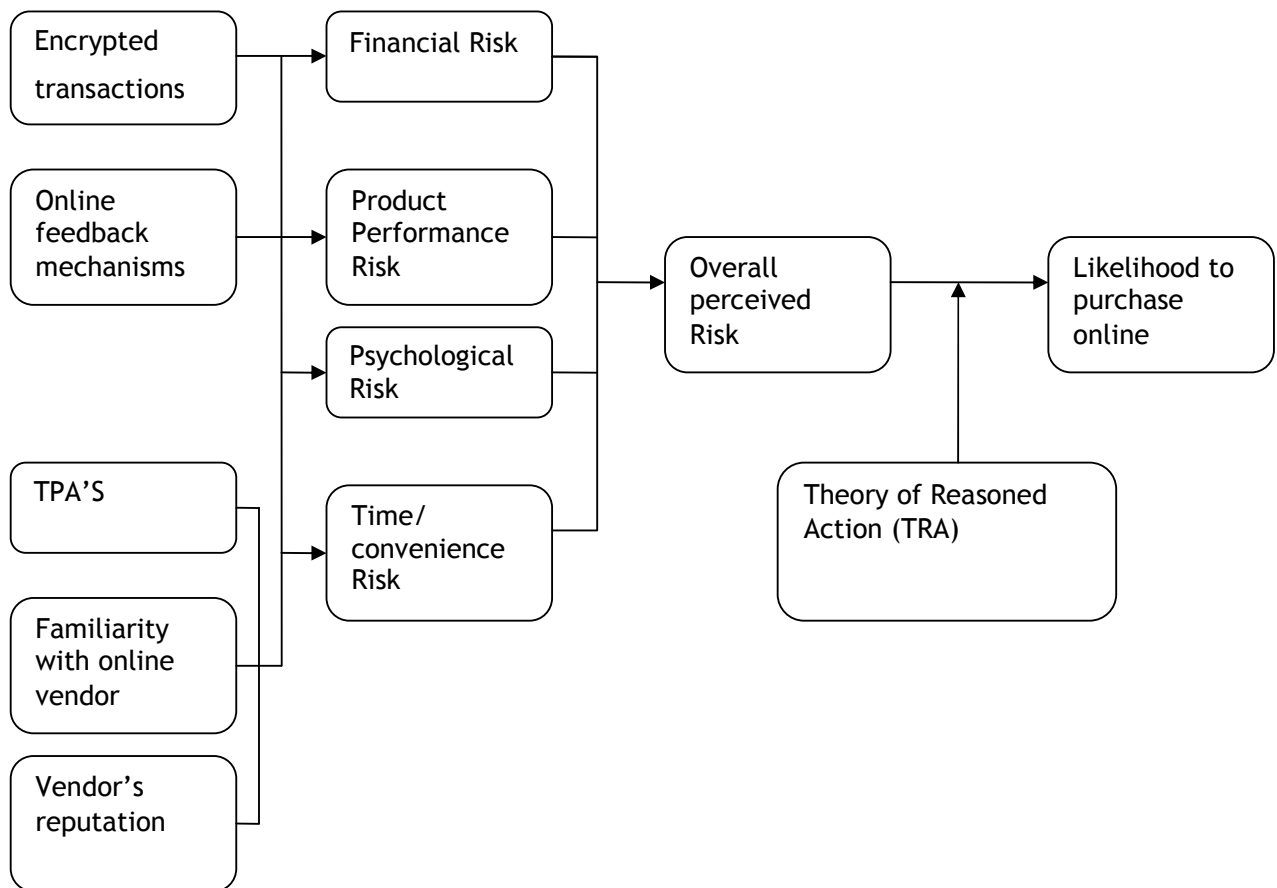


Figure 1. Research Framework

2.2 The research framework

A research framework allows for a visual representation of the methodology used to develop the hypotheses for testing. The relationship between the research variables: trust building strategies, specific risk areas and the likelihood to purchase online, is visualized through this framework. Some trust-building strategies are related to a specific risk area. Vendor's reputation is however an overall trust-building strategy and is likely to influence all four risk areas. Each risk area influences overall perceived risk. According to the Theory of Reasoned Action (Rehman et al. 2006), TRA, a lower perceived risk will lead to a higher chance to engage in online transactions. By proofing that there is a significant relationship between the trust-building strategy and the risk area(s), the contribution of that particular trust-building strategy to the growth of e-commerce⁵ is validated.

To gain a better understanding of the framework, the elements of this framework is explained in this chapter and in chapter 3. Because of the discussing the framework in one chapter would result in a compressed chapter, it is chosen to split the discussion in two sections. In the following sections of the present chapter the four risk areas are explained in more detail. Also the relation between overall perceived risk and trust, relevant for online shopping, is discussed. Finally, the relevance between government-regulated trust and self-regulated trust is explained.

2.3 Risk

Forsythe et al. (2003) mentions several authors who believe that in-home shopping is considered to have a higher risk level than shopping in an actual store. This, due to the fact that consumers do not have the opportunity to physically touch, feel or try out the products on-line prior to their purchase and returning unsatisfactory products requires much efforts. According to the findings of Forsythe (2003), perceived risk is a useful concept to explain barriers to online shopping. Risk, regarding customers' purchase decision, can be characterized as the consequences of mistakes that can be made, and the level of inconvenience as a consequence of incorrect judgments (Forsythe 2003 et al). As risk is

⁵ The terms e-commerce customers, online shoppers and e-commerce consumers are assumed to have a similar meaning and will be used indifferently throughout this thesis. Also E-retailer, online retailer, web vendor and online vendor are considered synonyms and will be used indifferently throughout this thesis.

modeled by the decision-maker's individual response to uncertain situations (Lee 2007), it is a personal matter.

Perceived risk regarding shopping via the internet may be formulated as an internet shoppers' expectation of loss, which is subjectively, determined in his/her careful consideration of purchasing a particular product on the internet (Forsythe et al. 2003).

Also the distant and impersonal nature of e-commerce and the uncertainty of using a global open infrastructure for transactions make risk an inevitable element of e-commerce. According to Pavlou (2003) there are two forms of uncertainty naturally present in on-line transactions: environmental uncertainty and behavioral uncertainty. Risks are either technology-driven, and thus derived from the underlying infrastructure (environmental risks), or relational, resulting from the trading partners (behavioral risk).

- According to Pavlou (2003) environmental uncertainty is mainly the consequence of the uncertain nature of the internet, which is uncontrollable by the web vendor or the online shopper. He also states that although retailers have an important influence on the security of the transaction medium (e.g encryption, authentication, firewalls), there is still the possibility of third parties compromising the transaction process. Theft of credit card information breaches of private information and stealing of personal information by hackers are examples of environmental uncertainty.
- Behavioral uncertainty is a consequence of web retailers that have the chance to behave in an opportunistic manner by taking advantage of the distant and impersonal nature of doing online business and the government's inability to monitor adequately all transactions (Pavlou, 2003). Examples of opportunistic behavior by web vendors include: misrepresentations of products, false identity demonstrations, unauthorized disclosure and use of private information and misleading advertising.

Pavlou (2003) also states that consumer base their online purchase decision on beliefs that are partly determined by behavioral and environmental factors. Given the uncertain context of e-commerce, perceived risk will lower consumers' intentions to use Internet sites for transactions. For example, consumers are not likely to engage in on-line transactions with a Web retailer that they perceive as opportunistic. Similarly, fears that a Web retailer has not taken adequate steps to reduce infrastructure-related risks will also negatively affect transaction intentions.

The relationship between perceived risk and buying intentions is explained by the Theory of Reasoned Action (Hansen. T et al. 2004). Perceived risk has been shown to negatively influence transaction intentions with Web retailers. The perceived risk associated with on-line transactions may reduce perceptions of behavioral and environmental control, and this lack of control is likely to negatively influence transaction intentions. Ravald and Gronroos (1996) posit that after a few favorable on-line transactions, the consumer starts feeling safe and perceives lower risk, because the customer experienced that the company he or she is dealing with is able to fulfill his or her needs and wants. As a consequence, the customer feels assured that the company will deliver future products and services according to its promises.

Forsythe et al. (2003) indicated four types of perceived risk that may influence consumers' purchase intentions and thus customers' behavior on-line. The four types of perceived risk can be categorized as behavioral risk, are as environmental risk are as both. The four types of risk are the bases for this research and are:

1. **Financial risk:** the risk concerning customers' net loss of a sum of money
2. **Product performance risk:** the customers' risk of a loss, as a result of the unsatisfactory performance of a product
3. **Psychological risk:** the risk concerning customers' fear to experience disappointment, frustration and embarrassment if their personal information is made public.
4. **Time/ convenience risk:** this risk concerning a time loss and the inconvenience that may be experienced, as a consequence of not being able to navigate and submit orders on-line, to find proper websites or situations where products are not delivered on time.

These risk concepts are explained in the following paragraphs.

2.3.1 Financial risk

The first type of risk in the research framework is financial risk. Financial risk is defined as the possibility of a net loss of money to a customer (Horton, 1976; Derbaix, 1983; Sweeney et al.,1999), and deals with using a payment instrument that may lead to financial loss(Salam, Rao and Pegels, 2003).

Examples of financial risk are: misuse of credit card information, consumers that cannot get a refund when needed or are not able to reverse or stop the transaction after discovering a mistake. It also includes fraudulent and sometimes unauthorized use of credit cards leading to a financial loss. Thus, consumers' apparent sense of insecurity regarding online credit card usage stems primarily from a concern about financial risk (Horton, 1976; Derbaix, 1983; Salam, Rao and Pegels, 2003).

In the Netherlands the two options to pay online when consumers are exposed to risk are:

- Credit cards.
- iDEAL.

Credit card use

Consumers' unwillingness to provide their credit card information over the Web has been cited as a major obstacle to online purchases (Maignan and Lukas, 1997). Many consumers believe that it is too easy to have their credit card information stolen or misused (Caswell, 2000).

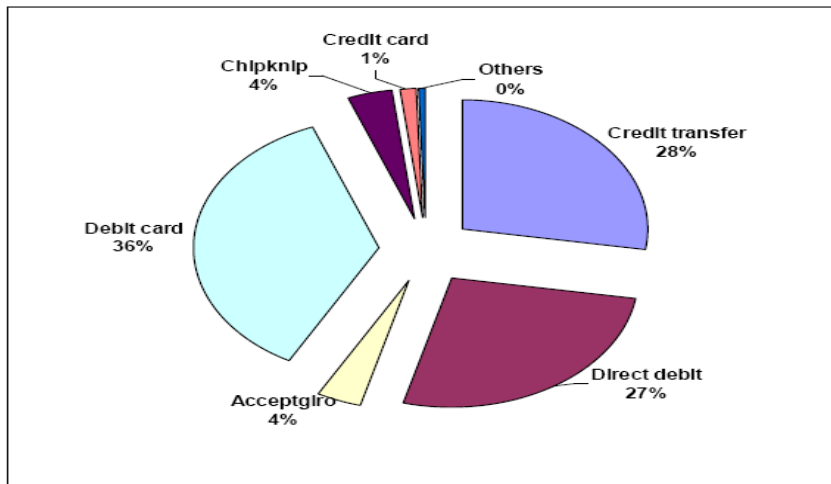


Figure 2: Overview of payment instruments in the Netherlands in 2008

In the Netherlands credit card payments play a minor role. According to the Netherlands' Bankers' Association 'De Nederlandsche Bank Currence' only one percent of all revenues, on- and offline, are paid by means of credit cards. **Figure 2** depicts the overview of payment instruments. This overview relates to both on- and offline payment instruments. In the Netherlands credit card use is not such a familiar phenomenon as in e.g. the United States of America (Transition to SEPA 2008 by The Nederlandse Bankers' Association).

Although Credit card use only accounts to one percent of all the payment transactions in the Netherlands, the use of credit cards in online transactions today still plays a major role. Dutch credit card spending more than tripled between 1998 and 2006. The increase in credit card use in the Netherlands can also be seen from the growth of credit cards in use. In the first half of 2007 an average 2.7 million credit cards were used, compared with 1.5 million in 1998.

iDEAL

An increased sense of paying insecurity by e-commerce consumers and the suspicion that web merchants never get their money if they send the merchandise in advance, resulted in the development of a paying standard for secure and direct payments on the internet called iDEAL. iDEAL was launched in 2005. Paying with iDEAL nowadays is just as familiar as internet banking. This may be the reason why so many web merchants offer iDEAL as a payment method and may also explain the quick adoption of iDEAL by e-commerce consumers. iDEAL is developed by the four mayor banks in the Netherlands: ABN AMRO, ING Bank, Postbank en Rabobank. Now a day, Fortis and SNS Reaal also accept iDEAL transactions.

If an e-commerce consumer selects the iDEAL payment option on the vendor's website, a payment request is automatically forwarded to the consumer's selected bank. The consumer is also transferred to the internet banking environment where he has to log in and authorize the payment request. If the consumer has sufficient credit, the web vendor instantly receives a payment notification and can instantly send the merchandise to the consumer⁶.

The advantages that iDEAL provide over other online payment methods are:

- iDEAL is just as safe, quick and familiar as internet banking.
- Instant notification when a transaction is successful to both the vendor and consumer.
- Over 90 percent of all people are customers of one of the banks that accept iDEAL.


iDEAL is more popular than credit cards. One out of every six purchases on the internet is paid by means of iDEAL. According to a research conducted by the Blauw research in 2007⁷, 19 percent of all online revenues in 2005 were paid with credit cards and only 1 percent

⁶ <http://www.easyaddin.nl/contents/nl/d181.html>

⁷ <http://webwereld.nl/articles/46216/nederlanders-betalen-vaker-via-ideal-dan-met-de-creditcard.html>

was paid with iDEAL. In 2006 13 percent of all online revenues were paid with credit cards while iDEAL payments rose to 15 percent. According to the iDEAL administrator, 'Currence', this shift is caused by the fact that consumers perceive iDEAL safer than credit card transfers. It is also stated that iDEAL transactions will steadily increase. **Table 1** (Source: Online betalen, 2008 by Innopay) gives an overview of iDEAL transactions. The numbers show a steady growth of transactions. **Figure 3** (Source: Online betalen, 2008 by Innopay) is an overview of the payment methods accepted by Dutch online vendors. This figure underwrites the statement that iDEAL is more popular than credit card transfers.

Table 1 Overview of iDEAL transactions in 2007 and 2008

		
Transacties		Maandtotalen
	dec	720.108
2007	jan	817.301
	feb	832.791
	mrt	1.009.300
	apr	964.570
	mei	1.196.544
	jun	1.215.407
	jul	1.329.113
	aug	1.320.668
	sep	1.372.337
	okt	1.506.796
	nov	1.620.107
	dec	1.749.328
2008	jan	1.874.457
	feb	1.748.301
	mrt	2.016.627
	apr	1.989.019
	mei	2.170.126
	jun	2.285.803
	jul	2.387.783
	aug	2.353.938
	sep	2.445.840

Source: Online betalen by Innopay

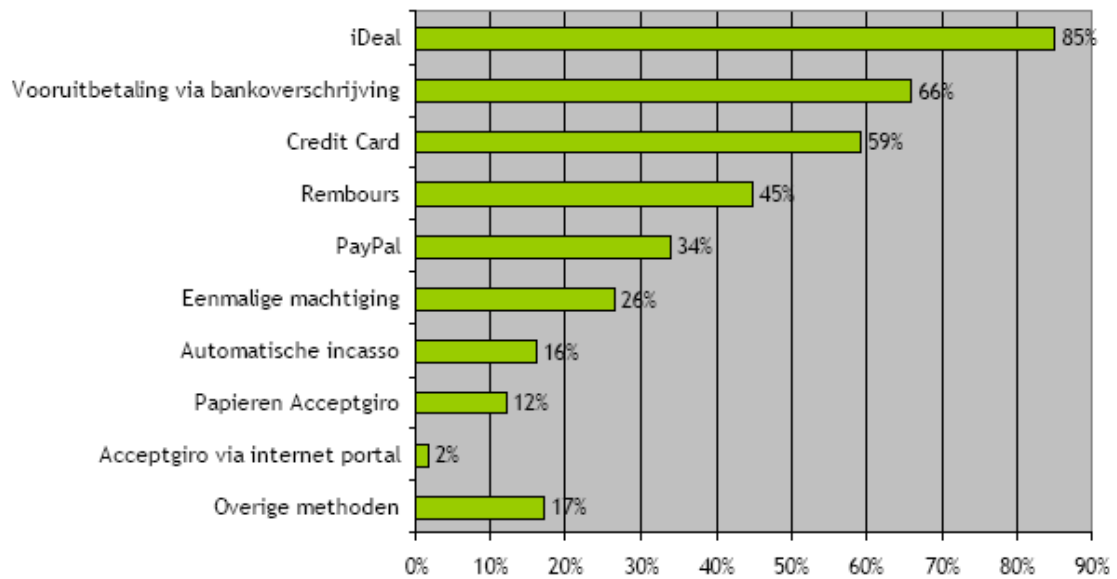


Figure 3. Overview of payment methods accepted by Dutch online merchants in 2008.

Source: Online betalen by Innopay

There are four other payment methods but these methods do not expose consumers to financial risk and therefore will not be discussed. These payment methods are:

- Accept giro
- Rembours
- Automatic incasso
- PayPal

2.3.1.1 SEPA, the European context

iDEAL is a payment standard for the Netherlands. An e-commerce consumer using iDEAL cannot pay for merchandise purchased outside the Netherlands. Other European countries have their own standards. Austria has EPS (Launched in 2001), Denmark has eDankort(launched in 2003), Belgium has Bancontact/Mistercash(launched in 2006), Germany has giropay(launched in 2006), Norway has BankExess and The Czech republic has Netbanka.

In the European market other issues are relevant for online shopping by Dutch consumers. In 2008 a new European standard for online payments system was launched. This system is named SEPA and stands for 'Single European Payments Area'. SEPA marks the beginning of international payments within the European union and speeds up the process of European countries be coming one. These developments will undoubtedly have an impact on the growth of the Dutch e-commerce market.

2.3.2 Product performance risk

The second type of risk in the research framework is product performance risk. Product performance risk is defined as the loss incurred when a brand or product does not perform as expected (Horton, 1976). Product performance risk is the consequence of the inability of the online shopper to accurately judge the quality of the product online. This inability to judge product quality online is the consequence of barriers to touching, feeling, trying out the product, inaccurate product colors, and insufficient information on quality attributes relevant to the consumer, resulting in increased product performance risk (Forsythe, 2003).

Product performance risk has a negative effect on perceived product quality (Bolton & Drew, 1991; Cronin et al., 2000; Dodds et al., 1991). Perceived product quality is defined as the consumer's judgment about a product's overall excellence or superiority (Jacoby & Olson, 1985; Parasuraman et al., 1985; Zeithaml, 1988)

Lower perceived product quality may be an additional barrier for the online shopper. Due to lower perceived quality online shoppers may choose to go to a traditional brick and mortar store to purchase the merchandise. In order to reduce product performance risk, web vendors may put some essential facts (product description) about the product they are selling on their website such as:

Who can use the product?

- Ingredients of the products, if applicable.
- Benefits of using the product.
- How the product is different from hundreds of similar products.
- Do-it -yourself guide, if necessary.
- Some valid testimonials.
- Summaries of the product.

Web vendors in the Netherlands are also experimenting with product description cues e.g. consumer that are not familiar with the product that he / she wants to buy, can base their decision on ratings or testimonials. Examples of vendors that offer the option to rate a product or write a testimonial are: www.selexyz.nl, www.bol.com and www.ciao-shopping.nl. There are also sites that solely rate products and dispose testimonials. Examples of such sites are: www.cosmopinion.com, www.epinions.com and www.redferret.net.

2.3.3 Psychological risk

The third type of risk in the research framework is psychology risk. Psychological risk may refer to disappointment, frustration, and shame experienced if one's personal information is disclosed. Privacy issues are a major concern of many Internet users. The Internet is often perceived as likely to violate users' privacy (Maignan and Lukas, 1997; Jacobs, 1997). The feeling of lack of control on the access others may have over their personal information during the online navigation process is a psychological risk that prevents many consumers from providing information to Web providers in exchange for access to information offered onsite (Jacobs, 1997; Hoffman et al., 1999). Privacy can be defined as the claim of individuals to determine for themselves, when, how and to what extent information about them is communicated to others (Westin, 1967).

Due to rapid the development in technology, companies can now efficiently collect store and exchange consumer data that are useful for implementing marketing strategies (Blattberg and Deighton, 1991; Blattberg, Glazer and Little, 1994; Glazer, 2001). This 'marketing information revolution' also involves the development of sophisticated data-mining devices to analyze Internet users' data. Examples of sophisticated data-mining devices are 'cookies' and software designed to track users movements over the Internet. This techniques make it is possible to monitor behavior and preferences without the consent or knowledge of consumers. However, these new opportunities for marketing may lead consumers to be more concerned about personal privacy and to react by being unwilling to disclose personal information (Hagel and Rayport, 1997; Hinde, 1999; Olivero, 2000 et al).

Fair information practices, practices that provide consumers with control over the use of the information they have disclosed to a company, may reduce the unwillingness of consumers to disclose information and will enable vendors to build trust relationships with consumers (Culnan & Armstrong, 1999; Milne, 2000). According to the Dutch law 'Wet bescherming persoonsgegevens' every web vendor must have a clear privacy policy and should apply fair information practices.

De 'Wet bescherming persoonsgegevens' states that personal information disclosed by a consumer, may not be used against their will. If a web vendor wants to collect personal information for direct marketing purposes, he/ she is obliged to inform the consumer about it, as well as which form of direct marketing (mail, post order etc) the disclosed information is going to be used for. The web vendor is exempted from telling the consumer about personal information collection if it concerns direct marketing of previously bought

merchandise at the web vendor. In section 2.6 the 'Wet bescherming persoonsgegevens' will be elaborated.

Besides, the focus on strategies aimed at reducing privacy concerns and developing trust, marketing scholars emphasize that consumers who are aware of the market value of information may ask for rewards against disclosure and, hence, that consumer data can be elicited by offering financial rewards (Hagel & Rayport, 1997; Sheehan & Hoy, 2000; Wunderink & Benthem, 1999). However, little is known of how consumers perceive the trade of personal information and what the implications are of gathering information by offering financial benefits.

2.3.4 Time/ convenience risk

The fourth type of risk in the research framework is time/convenience risk. Time/convenience risk may refer to the loss of time, and inconvenience incurred due to difficulty of navigation and/or submitting orders, finding appropriate websites, or delays receiving products as well as time spent on returning unsatisfactory products. Two leading causes of dissatisfying online experiences that may be thought of as a time/convenience risk include a disorganized or confusing website, pages that are too slow to download and it may also be related to the length of time involved in learning and using the website. Additionally, potential delays or difficulties in receiving ordered merchandise are a concern of some online shoppers (Forsythe, 2003).

Gehrke and Turban (1999) mentioned some authors that discussed the most important factors that determine consumers' convenience are:

- **Page-Loading Speed.** Speed (i.e., slow speed) is the number one complaint of Web users namely 77%(Hamilton, 1997). Most potential e-commerce customers do not want to wait for a seemingly endless page to load. If downloading speed is too low online shopper stop the purchase process and go elsewhere. Therefore, large graphic files and 'cool' animation that may lower download speed may come at a price to the Web business owner in terms of lost business (Busch, 1997). In some cases page-loading speed is out of the control of the Website builder. Such factors as customers' computer power, server speed and modem speed and other factors are to be blamed.

- Business content is a major website issue, because the quality of presentation and usefulness of the content determine whether a potential customer will be attracted to, or driven away, from the site (Gehrke and Turban in 1999).
- An online shopper is likely to get confused, lost, or frustrated without efficient and user-friendly navigation and may decide to make a purchase elsewhere. A good source for understanding the 'usability of a site' based on scientific studies is found at [http://www. world.std.com/~uieweb](http://www.world.std.com/~uieweb) (Gehrke and Turban in 1999).

Time risk is caused by delays when receiving products. If a product is purchased online, it still has to be delivered by the vendor and received by the consumer. Most web vendors do not deliver the goods themselves but use the service of a delivery company. Most delivery companies deliver from Monday to Saturday between nine and five. It is a common phenomenon that when the delivery is made, there is no one at home to accept the goods.

The solutions to this problem are:

- The goods are delivered at a, by the customer determined, alternative address e.g at the office of the consumer or at the parents house of the consumer.
- The goods are delivered at the neighbors.
- The consumer has to call the delivery company to make an appointment at a time that the consumer is at home.
- The goods are delivered at the nearest postal office. Not every web vendor offers this option because there are extra costs.

Some web vendors offer customers the possibility to keep track of their product while it is in the delivery process. An example of this service is offered by the Dutch postal company TNT post. They provide clients this service under the name 'the track and trace'. Unfortunately most couriers do not provide this service

Returning unsatisfactory products is also part of time risk. Besides the time and effort the consumers are facing in returning the products, there are also additional costs related to returns, because the consumer has to send the products back to the vendor by registered mail.

2.4 Perceived risk and Trust

According to Lee (1998) and Pavlou (2002) trust⁸ is a defining feature of most economic and social interactions in which uncertainty is present. This practically holds for interactions conducted in the uncertain and impersonal environment of e-commerce.

Several researchers, in fact, have proposed trust as an important element of Business to Consumer e-commerce. Jarvenpaa and Tractinsky (1999) empirically showed that trust has a direct effect on consumer purchase intentions in multiple cultures. Mc Knight (2002) et al. describe trust in B2C e-commerce as the belief that allows consumers to willingly become vulnerable to Web retailers after having taken the retailers' characteristics into consideration. Two distinct but not non-separable facets of trust in e-commerce are relevant. First, it involves the traditional view of trust in a specific party, the Web retailer, and second it implicitly encompasses trust in the integrity of the transaction medium, trust in the infrastructure (Pavlou, 2003).

Lower perceived risk results in the willingness of online shoppers to trust a particular web vendor. More trust results in the willingness of the online shopper to make an online purchase. This relationship is explained by the Theory of Reasoned Action. In the next paragraph the Theory of Reasoned Action is explained in greater detail. Web vendors are aware of the implications risk may have on trust. To gain trust of the (potential) online shoppers web vendors are using trust building strategies. These strategies are elaborated on in chapter three.

⁸ In this context trust can be defined as: Consumer's willingness to accept vulnerability in an online transaction based on positive expectations of the future behavior of an e-retailer (Kimery and McCord, 2002).

2.5 Theory of Reasoned Action

In the previous sections the different types of risk were described. It is therefore relevant to understand how the reduction of risk and the development of trust will increase the likelihood to purchase online. The Theory of Reasoned Action explains the relevant mechanisms. According to the Theory of Reasoned Action lower perceived risk results in the willingness to trust a particular web vendor. More trust in web vendors results in more purchases of online shoppers.

The theory of reasoned action (TRA) is a series of social psychological concepts and constructs, linked together to understand and predict human behavior (Fishbein and Manfredo, 1975). TRA has a long-established tradition of research on the relationship between attitudes and behavior in social-psychology. TRA, was introduced by Fishbein in 1967, in 1975 formalized by Fishbein and Ajzen, and since then it has been used successfully in disciplines concerned with human behavior, ranging from health to consumer behavior.

According to Rehman et al. (2006) the basic assumption underlying TRA is that human beings take account of available information and implicitly or explicitly consider the implications of their actions and therefore usually behave in a sensible manner. A person's actions are the immediate consequence of this sensible behavior. When unforeseen events take place, people are expected to act in accordance with their intentions (Ajzen, 1988). The stronger a person's intention the greater the possibility that the behavior is actually performed (Ajzen and Madden, 1986). The primary concern for the researcher is to identify the factors that shape and change the behavioral intent (Fishbein and Manfredo, 1975). In this research those factors are the trust-building strategies that are discussed in chapter 3. According to Fishbein and Ajzen (1975) and Chang (1998) the theory of reasoned action regards a consumer's behavior as determined by the consumer's behavioral intention. Behavioral intention is a function of 'attitude toward the behavior' (i.e. the general feeling of favorableness for that behavior) and 'subjective norm (SN)' . For example the perceived opinion of other people in relation to the behavior in question. **Figure 4** gives a graphical representation of the theory of reasoned action based on the definition of and Ajzen (1975) and Chang (1998) .

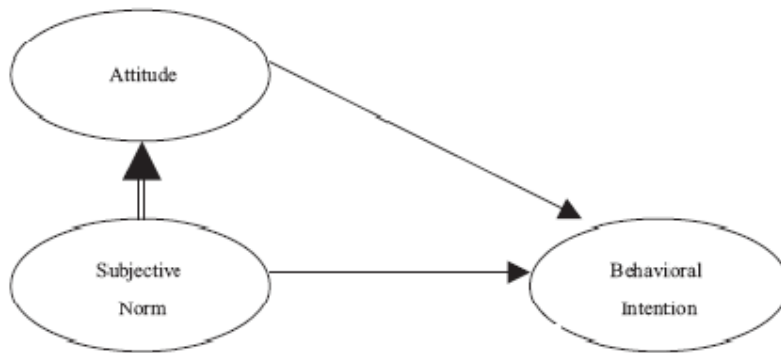


Figure 4 Graphical representation of the Theory of Reasoned Action.

Source: Hansen, Jensen and Solgaard 2004.

In chapter 3 the trust building mechanisms are explained and the impact of these mechanisms on the behavior intentions.

2.6 Dutch legislation

When we take a look at regulated trust and e-commerce, two types can be distinguished: government-regulated trust and self-regulated trust. Chapter 3 will elaborate on self-regulated trust. Government-regulated trust regarding e-commerce, are the measures that the Dutch government takes to protect e-commerce costumers. Although government-regulated trust is outside the scope of this research, Dutch legislation regarding e-commerce will briefly be discussed in order to give a holistic view. Besides, the government-regulated trust will, to some extent, also shape the importance and content of self-regulated trust.

Special legislations that are adopted by the Dutch government to strengthen e-commerce costumers' vulnerable position are⁹ briefly discussed.

Legislation regarding e-commerce. According to this law, web vendors are required to display general information about the company on the website so that their costumers know who they are dealing with and where to go in case of an incorrect order completion. The most important information that must be displayed is: the address of the company, the tax-number of the company as well as the chamber of commerce number (KvK) of the company. This law also insists that companies state clear information about their ordering procedure and that companies have to confirm each order to their costumers. According to research

⁹ http://www.cms-sb.com/juridisch_actueel/publicaties/ecommerce_wettelijke_eisen_webwinkels_vaak_onbekend

conducted by the World IT Lawyers-network of law firms in April 2003¹⁰, almost 20 percent of all Dutch web vendors failed to even mention their names on their website.

Legislation regarding distant trading (Wet verkoop op afstand). According to this law, consumers are granted the right to return merchandise within seven days, without giving a reason why they wish to do so. Besides general information about the company, companies are also obliged to display additional information. The most prevalent points are:

- The price and characteristics of the product or service.
- Additional costs such as: delivery costs and administration costs.
- Payment methods and delivery methods.
- Duration of the offer or price.
- The preconditions and the right to return merchandise within one week.

If a web vendor fails to mention this information, the time in which a consumer can return merchandise is automatically extended to thirty days. Companies that are exempted from this law are real estate companies and financial service companies.

The law regarding e-commerce and the law concerning distant trading are specific laws concerning e-commerce. The law regarding financial services and privacy concerns are also beneficial to e-commerce, even though these two laws were not designed for e-commerce specifically. This paper will proceed by elaborating on these two laws.

Law regarding Financial services (Wet Financiële Dienstverlening).

On January 1st, 2006 the law regarding financial services was adopted. This law contains rules and guidelines regarding offering, mediating and advice about financial products and services. According to these laws financial companies must meet standards regarding integrity, expertise, transparency and financial security.

Law regarding privacy concerns (Wet Bescherming Persoonsgegevens):

This law requires companies to meet certain standards regarding personal information processing. The following rules apply to companies both off- and online:

- Companies may collect, store and process personal information only if there is a specified reason to do so or if the particular person gives permission to do so.
- Companies may collect, store and process only the information that is necessary.

¹⁰ www.worlditlawyers.com

- Companies must take appropriate measures to protect the collected and stored data from unauthorized disclosure.
- Companies must inform the particular person that his or her personal data will be collected as well as the purpose for doing so.
- Companies may not store data longer than necessary.

In this chapter the different types of risk, elements of the research framework, were elaborated on. Also the basic mechanism of the Theory of Reasoned Action was explained. In chapter 3 the remaining elements of the research framework, the trust building strategy and the introduction of the hypotheses, are discussed.

Chapter 3. Trust-building strategies and hypotheses

3.1 Introduction

In this chapter the trust building strategies, the remaining elements of the research framework, are discussed in more detail. Also, the related hypotheses are introduced. A trust-building strategy is implemented by a web vendor with the intention to increase customers' disposition to trust and customers' likelihood to purchase online. In the following sections the trust-building strategies; encryption, third party assurance, online product feedback, familiarity with vendor and vendors' reputation will be discussed.

3.2 Encryption

According to Dhillon (2007), security of the communication process, especially in the context of networked organizations such as web vendors, is essential. Cryptology helps to achieve that messages that are transmitted are kept confidential, maintain their integrity and are available to the right people at the right time. Cryptology also prevents that messages during transmissions are not accessed by unauthorized peoples or parties, protects the content of messages and insures messages confidentiality.

The process of encryption starts with plain text. This plain text can be in any format such as: .doc format (Microsoft Word), .xls (Microsoft Excel), .pdf (Adobe Reader) etc. The plain text is than turned into a cipher text document with the use of an encryption algorithm . The cipher text document cannot be returned to its plain text form without the use of the encryption algorithm and the associated key(s). A key is a string of bits that is used to create the encryption algorithm. Once plain text has been transmitted into cipher text, security requirements such as confidentiality, integrity and availability are guaranteed. The cipher text can now be transmitted over the internet or stored on a device in a secure way.

3.2.1 Symmetric encryption

There are two types of encryption, symmetric and asymmetric (public key) encryption. In symmetric encryption, a single key is used to encrypt and decrypt a document. Symmetric encryption is also referred to as conventional. According to Dhillon (2007) at the most basic level, there are five elements of conventional encryption.

1. Plain text: this is the original message or data, which could be in any native form.
2. Encryption algorithm: this algorithm performs a range of substitutions and transformations on the original data
3. Secret key: the secret key holds the exact substitutions and transformations performed by the encryption algorithm
4. Cipher text: this is the scrambled text produced by the encryption algorithm through the use of the secret key. A different secret key would produce a different cipher text.
5. Decryption algorithm: this is the algorithm that converts the cipher text back into plain text through the use of a secret key.

There are two preconditions needed for a successful symmetric encrypted transmission. First, the secret key needs to be safely and securely delivered to the recipient. Second, it should be impossible to work backward from the encryption algorithm and establish the encryption algorithm logic (Dhillon, 2007).

Dhillon(2007) also states that in the past cipher text could be decoded by just looking at them. However, with the advent of computers, encryption algorithms have become rather complex and it usually does not make sense to keep the algorithm secret. Rather it is important to keep the key safe. It is the key that holds the mean source to decrypt. **Figure 5** depicts the principle of the symmetric encryption process.

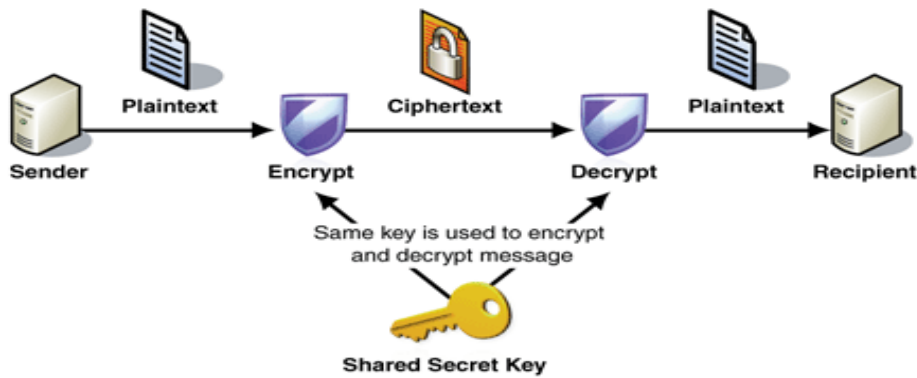


Figure 5 Illustration of the process of encrypting and decrypting data with a shared secret key.

Source: <http://msdn.microsoft.com/en-us/library/aa480570.aspx>

3.2.2 Asymmetric encryption

The asymmetric encryption method uses a two-part key: a public key and a private key. To send an encrypted message to the recipient, the sender uses the recipient's public key. This can be sent to him via regular e-mail or made available on any public website or venue. To decrypt the message, the recipient uses the private key, which he or she keeps secret (Dhillon,2007). **Figure 6** depicts the principle of encryption using the recipient's public key and decryption of the recipient using his private key.

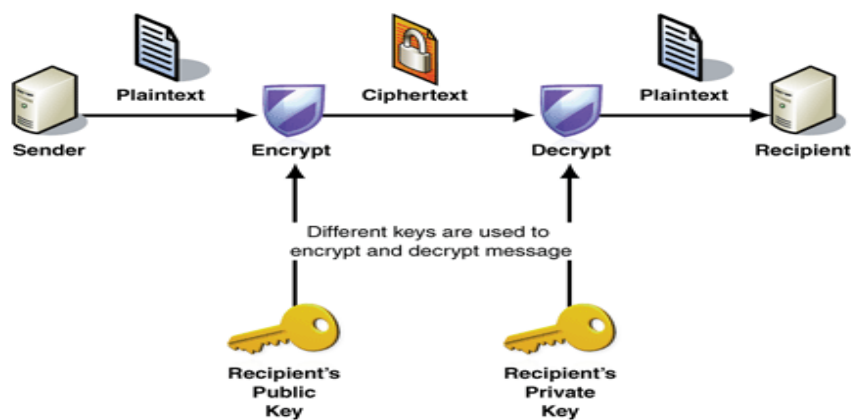


Figure 6 Illustration of the process of asymmetric encryption and asymmetric decryption

Source: <http://msdn.microsoft.com/en-us/library/aa480570.aspx>

The process can also be reversed. To guarantee the integrity of the message, the sender can encrypt the message using his secret private key. The recipient can decrypt the message by using the public key that is not secret and that was sent to him via regular e-mail or made available on any public Website or venue. Since the private key is under the

control of only one individual, this allows for authentication that this person and only this person could have originated the message. This is referred to as digital signature.

3.2.3 Secured Socket Layer

Secured Socket Layer (**SSL**) is one of the most popular protocols that uses symmetric key encryption and is especially used to protect passwords, credit card numbers, and other sensitive data transmitted between Web clients and servers (Krawczyk, 2001). A digital certificate guarantees that the server is indeed the indicated server. In the Netherlands SSL is used by all mayor banks such as: Rabo Bank, Fortis Bank, ABN AMRO Bank, Post Bank, ING Bank and SNS Bank. Most credit cards and iDEAL transactions are also SSL based.

During an SSL transaction a lock-icon is indicated at the bottom of the webpage. This statement holds for all Internet Explorer versions up till version 6.0. **Figure 7** illustrates the lock-icon. For version 7.0 of internet explorer the lock-icon is indicated at the top of the webpage. **Figure 8** shows a lock-icon of Internet Explorer version 7.0. When this lock-icon is clicked more information on the certificate is displayed. **Figure 9** is an example of this.

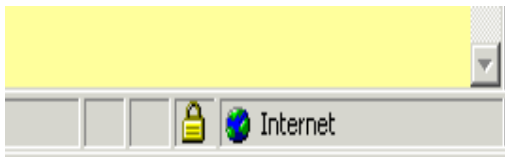


Figure 7 SSL lock-icon displayed at web pages up till version 6.0



Figure 8 SSL lock-icon displayed at web pages version 7.0

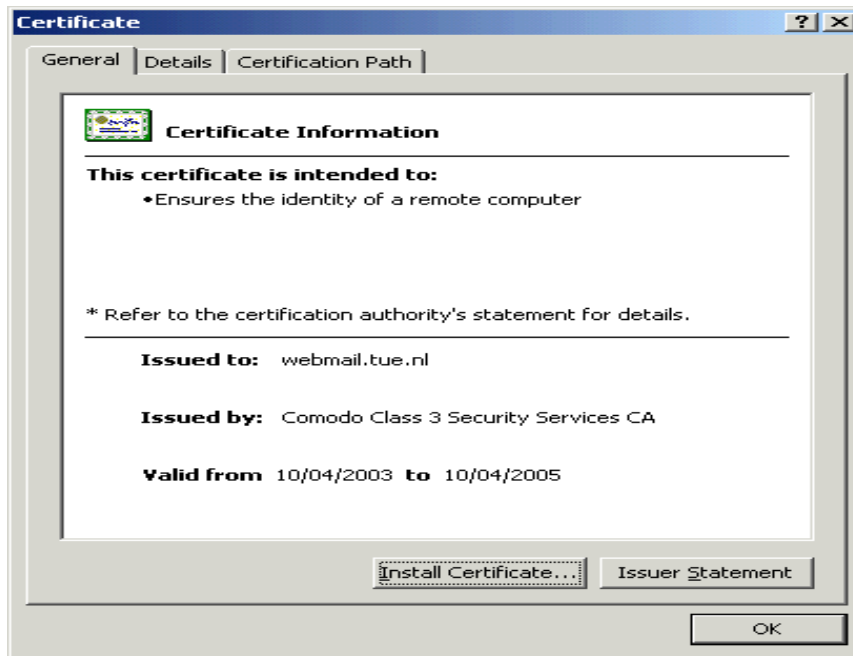


Figure 9 SSL Certificate

In this research an assumption is made that encrypted transactions influence financial risk perception (as shown in the search framework). The following hypothesis is formulated and tested.

H1: Encrypted transactions have a positive influence on online shoppers' likelihood to provide financial information over the internet.

3.3 Third Party Assurance

The E-commerce marketplace is characterized by a high level of information asymmetry and a low level of personal interaction between consumers and merchants. As a result it has proven difficult for consumers, especially during initial encounters, to determine which web vendors can be trusted to act accordance to agreement, to provide quality products or services and to accurately protect their personal and financial information (Kimery.K et al, 2006). One strategy employed by online merchants in order to show consumers that they are trustworthy is to display third party assurance (TPA) seals on their websites. These seals are evidence that the web vendor has met specific standards put forward by the seal-sponsoring organization. Web vendors engage in third party assurance programs with the expectation that it will facilitate consumers trust and increased online sales (Kimery.K, et al 2006).

Consumers may click on the third party assurance seals displayed on the vendor sites to obtain detailed disclosures of the third party. The seals and their disclosures are designed to assure consumers that transactions of the online vendor reflect the high standards set forth by the trusted third party (Head.M et al 2002).

According to Kimery et al (2002), while all assurance seals are designed to inform the shopper and to promote the seal displaying e-retailer as a trustworthy party, the details of each seal's standard and representations vary in terms of scope and focus. While some overlap between categories exists, three general assurance categories can be defined to clarify the underlying content of the seals:

1. Privacy assurance: assurance that the merchant discloses and complies with privacy policies.
2. Process assurance: assurance regarding the merchant's compliance with the assurator's standards for internal business processes.
3. Technology assurance: assurance that specific technologies are employed by the merchant or his/her agent to enable secure or reliable order and payment handling.

A TPA seal must first be perceived and accurately understood by the intended receiver before it can be assessed further for honesty and reliability. A signal that is not perceived or understood by the receiver will not produce its intended outcome or return desired benefits to the signaler (web vendor). If, as the limited research conducted thus far suggests, TPA seals do not have a positive impact on consumer trust in online merchants, it may be, at least in part, because the seals may not convey the intended trustworthy message to shoppers because the shoppers are unfamiliar with the TPA programs and the assurance these provide (Kimery.K et al, 2006). Therefore, it is relevant to investigate if TPA seals will have an impact on Dutch consumers' trust in online merchants.

In the Dutch market there are four Third Party Assurors namely: **Thuiswinkelwaarborg**, **MKB-OK**, **Qshops** and **Safe2Shop**. In the following subsections these seal sponsoring organizations will be discussed as well as their market share and rules of conduct.

3.3.1 Thuiswinkelwaarborg

Thuiswinkel.org makes a distinction between junior and senior members. A web vendor, is a senior member that is granted the right to carry a Thuiswinkelwaarborg seal after a juridical and financial inspection by a special committee. Senior members carry a senior Thuiswinkelwaarborg seal. These seals can be found on the website: www.thuiswinkel.org. **Figure 10** shows such a senior Thuiswinkelwaarborg seal. Junior members are members that have been gone through the juridical inspection but not yet through a financial inspection. Junior members carry the junior Thuiswinkelwaarborg seal. **Figure 11** shows a junior Thuiswinkelwaarborg seal. Both junior and senior members have to meet the standards regarding the rules of conduct and the terms and conditions of service put forward by Thuiswinkel.org.



Figure 10 Senior Thuiswinkelwaarborg seal



Figure 11 Junior Thuiswinkelwaarborg seal

Thuiswinkel.org has 980 members both senior and junior members. The emphasis of Thuiswinkel.org is on privacy assurance and process assurance. For the full list of rules of conduct refer to **appendix 1**.

3.3.2 MKB-OK

The emphasis of MKB-OK is on privacy assurance and process assurance. MKB-OK has more than 1000 members. MKB-OK grants the seal to companies that meet its requirements and that employ up to a thousand people. MKB-OK also makes a distinction between junior and senior members. A company first becomes a junior member. After a period of three years of compliance a junior member can become a senior member. Both junior and senior members have to meet the requirements put forward by MKB-OK. The only other difference between a junior and senior member is the seal and the price. Senior members pay:

- For a membership of three years; once € 99,50 and €19,50 a quarter which amounts to €111,17 a year.

- For a membership of a year, € 124,50
- For membership of a month € 11,95 which amounts to €143,40 a year.

Each additional test is € 39,50. The junior members pay an introduction fee of € 34,95 and after that € 4,95 fee each month. **Figure 12** and **figure 13**, found at the website www.mkbok.nl, show the seals for junior and senior members.



Figure 12 Junior mkb-OK seal



Figure 13 Senior mkb-OK seal

3.3.3 Qshops

Qshops does not make a distinction between senior and junior members. The contribution each member pays is € 24.95 a month. Qshops does not state how many members they have. The emphasis of Qshops is on security assurance and on process assurance. **Figure 14**, found on the website www.qshops.nl, shows the Qshops seal of approval.



Figure 14 Qshops seal

3.3.4 Safe2shop

Safe2Shop does not make a distinction between junior and senior members but rather works with stars. A company can gain up to five stars. Each additional star is proof that a web vendor has met a certain standard. For these standards reference is made to the website: http://www.Safe2Shop.nl/Criteria_Safe_2_Shop-pages-id-30-sid-19.htm .

Safe2Shop has 992 members and emphasizes process assurance, privacy assurance in the Netherlands that ensures technological risks. **Figure 15** shows the Safe2Shop seal.



Figure 15 Safe2Shop seal

In this research it is assumed that TPA's have an effect on overall perceived risk meaning financial risk, product performance risk, psychology risk and time/ convenience risk. To come to a conclusion whether this effect is positive or negative the following hypothesis is formulated and tested.

H2: TPA's have a positive influence on the overall risk perception of online shoppers

3.4 Online product feedback mechanisms

One of the most important new capabilities of the internet relative to previous mass communication technologies is its bi-directionality. Through the internet, not only can organizations reach audiences of large scale at low cost, but individuals can also make their personal thoughts, reactions and opinions easily accessible to the community of internet users (Dellarocas, 2003). Online product feedback mechanisms are using the internet's bi-directional communication capabilities to engineer large word-of-mouth networks in which consumers can share opinions and experiences on products. There are also rating mechanisms that allow consumers to rate vendor's products or services. These rating and product feedback mechanisms can be initiated by web vendors (the opinions are posted on the website of the web vendor) or by individuals who post their opinions on forums or weblogs. There are also sites that solely rate products and dispose testimonials. Examples of such sites are: www.cosmopinion.com, www.epinions.com and www.redferret.net.

The inability to judge product/service quality online may be limited by barriers of touching, feeling, and trying out the product or service, inaccurate product colors and insufficient information on quality attributes relevant to the consumer, resulting in increased product performance risk (Dellarocas, 2003). Consumers that purchase online can base their

purchasing decisions on product feedback or product recommendations given by consumers that purchased and experienced this product before.

The disembodied nature of online environments introduces several challenges related to the interpretation and use of online feedback. Readers of online feedback are thus faced with the task of evaluating the opinions of complete strangers. Another challenge to feedback interpretation has its root in the ease with which online identities can be changed. This opens the door to various forms of strategic manipulation (Dellarocas, 2003). For Example: an online vendor can pose numerous overwhelming positive feedbacks under a false identity. Strategic manipulation is outside the scope of this research.

In this research it is assumed that online product feedback mechanisms influence product performance risk (see research frame work). To see whether online product feedback mechanisms have a positive influence consumers' likelihood to purchase online the following hypothesis is formulated and tested:

H3: Online product feedback mechanisms have a positive influence on consumers' likelihood to purchase online.

3.5 Familiarity with the online vendor

Another way uncertainty can be reduced and relationships between customers and online vendors can be simplified, is by familiarity. Familiarity is an understanding based on previous interactions and experience.

Familiarity can create a framework for future expectations but also gives people the ability to create concrete ideas of what to expect based on their previous interactions with that particular web vendor. People often buy at the vendor they are familiar with and stick to that particular vendor if they have a positive previous experience and know what to expect from them. Familiarity can either create trust when the experience was favorable, or ruin trust when the experience was not favorable (Gulati R, 1995). Prior positive experience is the basis of trust.

Familiarity with the online vendor can also reduce interface complexity. Interface complexity is for example: how, what and when to get the information system to do what is required. Familiarity, knowledge of the vendor, and understanding the relevant procedures

and technology should reduce some of this complexity. People that experience interface complexity or likely to stop the inquiring procedure at the website (Gefen, 2000).

In this research it is assumed that familiarity with the online vendor influences overall risk perception. It is therefore relevant to test the following hypothesis for Dutch consumers.

H4: familiarity with a web vendor increases overall disposition to trust.

3.6 Vendor's reputation

Vendor's reputation is another frequently used trust-building strategy. A good reputation contributes to consumer trust in a seller organization especially when the consumer does not have any previous buying experience with the web vendor. Reputation is the extent to which buyers believe that the selling organization is honest and concerned about its customers. In contrary to familiarity with the online vendor, vendor's reputation is not based on previous interactions with the web vendor but on expectations. A good reputation is a valued asset, and sellers usually try to avoid getting a bad reputation. Reputation requires a long-term investment of resources, efforts, and attention to customer relationships (Chiles & McMackin 1996).

It is assumed in this research that vendor's reputation influences overall risk perception. It is therefore relevant to test the following hypothesis for Dutch consumers.

H5: A web vendor's positive reputation influences consumers' overall disposition to trust.

All elements of the research framework have been discussed. In chapter 4 the research design is addressed.

Chapter 4 Research design

4.1 Introduction

In this chapter the empirical part of the thesis is discussed. The **main research question** of this thesis is ‘to what extent do trust building strategies affect consumers’ purchase likelihood, and to what extent is the growth of the e-commerce market caused by the selected trust building strategies.

In the survey the questionnaire is employed to investigate the opinions of internet users in the Netherlands on their behavioral intent when exposed to the selected trust mechanisms. The ultimate aim is the assessment of the impact of these trust mechanisms to the growth of the Dutch e-commerce market.

4.2 Research strategy

A quantitative research design is used to reach a valid conclusion. The aim of a quantitative research design is to classify features and count them in an attempt to explain what has been observed. The required information was obtained through an online survey research. Surveys are mainly used in studies that have individual people as the unit of analysis. Social researchers who are interested in collecting data for describing a population too large to observe directly, commonly use surveys. Careful probability sampling provides a group of respondents whose characteristics may be used to reflect those of the larger population. Carefully constructed standardized questionnaires provide data in the same format from all respondents (Earl Babbie, 2004).

Closed-ended questions are very popular in survey research because they provide a greater uniformity of responses and are more easily processed. However, closed-ended questions require some caution. The shortcomings of closed-ended questions relate to the researcher’s structuring the questions and responses. In some cases the researchers’ structuring of questions is not clear and the structuring of the responses may have overlooked some important aspects. To prevent these shortcomings the questionnaire was pre-tested. To this end the questionnaires was posted to a ‘test’group. The feedback of this group was assessed and incorporated in the questionnaire.

4.3 The population sample

Probability sampling is one of the most reliable sampling methods. A probability sampling scheme is one in which every unit of the population has an equal chance of being included in the sample. Today, probability sampling remains the primary method of selecting large, representative samples for social research, including national political polls (Earl Babbie, 2004). Theoretically, random selection offers the best chance of minimizing selection effects because each individual of the population has an equal chance of being sampled. The population for the sample consists of the Dutch online population. According to the latest available data of the CBS, the online population was 11 million in 2006¹¹. There is no up to date data regarding the total internet users. In calculations for the sample size, a population size of 11 million is used.

Although probability sampling was preferable in this survey, non-probability sampling was applied. Probability sampling in this survey was judged too time consuming and too expensive when applied appropriately. It is a time consuming job to select a sample that is a fully random. That is why a non-probability sampling method was applied, namely snowball sampling. A non-probability sampling method is one where the members of the population do not have an equal chance of being included. Snowball sampling is a non-probability sampling method that is often employed in field research whereby each person interviewed may be asked to suggest additional people for interviewing. The implication of this research is that everybody who is invited to participate in the research by an invitation mail, is requested to forward this invitation to his/her friends, family or colleagues. The study is limited to the Dutch online population as this research aims at validating the contribution of trust mechanisms to the growth of the Dutch e-commerce market.

Target respondents

The target respondents are all people that have access to the internet and are therefore potential online shoppers. The survey was conducted online. A major advantage by doing the survey on the web is that an internet shopper must be an internet user. The web survey method is a natural filter that excludes responses from ineligible respondents, people who do not have access to the internet.

¹¹ <http://www.cbs.nl/NR/rdonlyres/86427727-C701-43E0-82D7-72A6206CA9C9/0/pb06n101.pdf>

Sample size

The sample size is dependent on several aspects. According to Israel (1992), the sample size is not affected by the choice of using a non-probability sampling method. First of all, it is dependent on the population size. Reliability interval is the next aspect that determines the sample size. Ninety five percent (95%) reliability interval is common in research. The accuracy interval also determines the sample size. A five percent (5%) accuracy interval is common in research. By using a sample size calculator for a population size of 11 million, a ninety five percent (95%) reliability interval and a five percent (5%) accuracy interval, a sample size of 385 was computed.

Several analysis techniques were applied to process the data and to produce meaningful results. A total of 119 respondents completed the survey and 135 respondents did not fully complete the survey. **Appendix 2** contains the full questionnaire. The results of the data-analysis are presented in chapter 5.

Two analyses were performed: a correlation test, and a one-sample T-test. In probability theory and statistics, correlation indicates the strength and direction of a linear relationship between two random variables. In general statistical usage, correlation refers to the departure of two random variables from independence. In this broad sense there are several coefficients, measuring the degree of correlation, adapted to the nature of the data (Earl Babbie, 2004). A correlation significance of less than 0.05 indicates a significant relationship between two random variables.

A one-sample T-test is used to check hypotheses if the mean of random variable X equals to a given pre-specified value μ . Testing sample should be a sample of a normal random variable. Simply put, a one-sample T-test shows if the mean of the answers provided by the respondents, significantly differs from a pre-specified value. In this case the pre-specified value is four, which is the mean of a seven-based Likert scale.

4.4 The survey

In accordance with the research objective a written questionnaire was developed to gather information from a relatively large number of respondents. The questionnaire was developed based on the research framework, see figure 1, and addressed the central research questions by testing the hypotheses H1 - H5. Based upon the answers obtained, the hypotheses H1 - H5 were accepted or rejected. Different sources and expertise were

used to develop the questionnaire. Furthermore, the construction of the questions was to a great extent based on literature review. Some survey questions were obtained from the website of Surveyconsule.com, but most of the questions were designed by the researcher. These inputs contributed to the design of a first draft questionnaire which was discussed with the experts. Finally the modified questionnaire was pre-tested by a small number of random representatives of the group of experts. Pre-testing provided the opportunity to improve the questionnaire, and to enhance its reliability and validity. The questionnaire consists of five parts and is related to the trust mechanisms:

1. Encrypted transactions
2. Third party assurance
3. Online feedback mechanism
4. Familiarity with online vendors and
5. Vendor reputation.

The questionnaire contains 30 closed- ended questions. To familiarize the target group with the subject, a short introduction was given at each part. The target group was recruited through email invitations, which were embedded with the survey website **URL**. The survey website was hosted by Surveyconsule.com.

The five parts of the questionnaire, **see appendix 2**, will be briefly described.

1. The first part of the questionnaire covers the trust mechanism ‘encrypted transactions’. This part of the survey captures information of the Dutch online shoppers regarding their general knowledge about encrypted transactions, as well as their enhanced likelihood to provide financial information online. With the information obtained, **hypothesis H1** was either accepted or rejected. With this part the information pertaining to the research question regarding the contribution to the growth of the Dutch e-commerce market was also obtained.
2. The second part of the questionnaire covers the trust mechanism ‘Third Party Assurance (TPA)’. With this part of the survey, information of the Dutch online shoppers regarding their familiarity with TPA’s and TPA assurance programs and their enhanced overall disposition to trust resulting from the TPA, was obtained. With the information **hypothesis H2** was either accepted or rejected. With the information also a better understanding of the contribution of TPA’s and TPA assurance programs to the growth of the Dutch e-commerce market will be gained.

3. The third part of the questionnaire covers the trust mechanism 'online feedback mechanism'. With this part of the survey information regarding enhanced disposition to purchase online resulting from a more informed decision, is obtained. This part also investigated the frequency of respondents using online feedback mechanisms. With the information **hypothesis H3** was tested. With the information also a better understanding of the contribution of online feedback mechanisms to the growth of the Dutch e-commerce market was gained.
4. The fourth part of the questionnaire covers the trust mechanism: 'Familiarity with the online vendor'. The information regarding respondents enhanced disposition to trust resulting from familiarity with the online vendor was obtained. **Hypothesis H4** was tested. With the answers of the respondents, a better insight regarding the contribution to the growth of the Dutch e-commerce market, was gained.
5. The fifth and final part of the survey, covers 'vendor's reputation' . With the information obtained, conclusions were drawn on the impact a vendor's reputation has on the Dutch online shoppers' disposition to trust and **Hypothesis H5** was either accepted or rejected. With the information also a better understanding of the contribution of vendor's reputation to the growth of the Dutch e-commerce market is gained.

By analyzing the answers, a comparison was made and conclusions drawn to which specific trust mechanisms Dutch consumers are most responsive. By linking other information such as new technologies and statistics regarding internet usage, the second central research question 'what other factors may have influenced the growth of the Dutch e-commerce market' was answered.

In chapter 5, the findings and limitations are discussed, while in chapter 6, the conclusions and future research are presented.

Chapter 5 Findings and limitations

5.1 Introduction

In this chapter the findings of the questionnaire regarding hypotheses H1- H5 will be discussed. In section 5.2 the findings of the trust building mechanisms on the financial risk, product performance risk, psychological risk and time/ convenience risk and the related hypotheses, are addressed. Section 5.3 till 5.5 addresses the central research questions and the final section addresses the limitations of this research.

5.2 Findings of the trust mechanisms

The findings of the trust mechanisms and conclusions on the hypothesis are discussed in the next sub sections. 5.2.1 Discusses the findings of encrypted transactions. 5.2.2 Discusses the findings of Third party assurance. 5.2.3 Discusses the findings of online feedback mechanisms. 5.2.4 Discusses the findings of familiarity with the online vendor and 5.2.5 discusses the findings of vendor's reputation. In sections 5.3 till 5.6 the central research questions are addressed while the last section, 5.6, addresses the limitations.

5.2.1 Findings of 'Encrypted transactions'.

The first part of the questionnaire contained five questions regarding the trust mechanism 'encrypted transactions' and the related hypothesis H1. To investigate whether encrypting financial data influences the financial risk perception of online shoppers, a correlation analysis was performed. **Table 2** displays the results of the correlation analysis.

VAR0001 till VAR0005 in **Table 2** correspond with the numbers of the questions in the first part of the questionnaire. The correlation analysis shows which questions are correlated. A significance (also referred to as the p value) of 0.005 or less indicates a significant relationship. The findings of these correlations are now discussed.

Table 2 Results of the correlation analysis regarding the trust mechanism ‘Encrypted transactions’.

		Correlations				
		VAR0001	VAR0002	VAR0003	VAR0004	VAR0005
VAR0001	Pearson Correlation	1.000	0.043	0.140	0.232**	-0.022
	Sig. (2-tailed)		0.604	0.089	0.005	0.792
	N	150.000	149	149	148	148
VAR0002	Pearson Correlation	0.043	1.000	0.123	0.110	0.033
	Sig. (2-tailed)	0.604		0.076	0.115	0.635
	N	149	209.000	208	206	207
VAR0003	Pearson Correlation	0.140	0.123	1.000	0.451**	0.033
	Sig. (2-tailed)	0.089	0.076		0.000	0.640
	N	149	208	209.000	207	208
VAR0004	Pearson Correlation	0.232**	0.110	0.451**	1.000	0.365**
	Sig. (2-tailed)	0.005	0.115	0.000		0.000
	N	148	206	207	207.000	206
VAR0005	Pearson Correlation	-0.022	0.033	0.033	0.365**	1.000
	Sig. (2-tailed)	0.792	0.635	0.640	0.000	
	N	148	207	208	206	208.000

** . Correlation is significant at the 0.01 level (2-tailed).

Financial risk. The table displays that the more concerned people are that their financial information might be stolen or intercepted (VAR0001), the more often they check whether the transmitted financial information is being encrypted (VAR0004). This plausible thought is confirmed by the correlation analysis.

Table 2 also shows that the more people are able to check whether the transmitted data is being encrypted (VAR0003), the more often people actually do check if the transmitted data is being encrypted (VAR0004). Also, the more often people check whether the transmitted financial information is being encrypted the more likely they are to provide their financial data to the web vendor that is encrypting the transmitted data (VAR0005). How often people pay their bills online is not affected by any of the included variables (VAR0002). This may be due to the fact that the perceived risk of paying bills online is low, because people may perceive financial institutions as more trust worthy.

Reflecting on hypothesis H1, Encrypted transactions have a positive influence on online shoppers' likelihood to provide financial information over the internet, the conclusion can be drawn that encrypted transactions have a positive influence on the risk perception. Because risk perception is influenced positively hypothesis H1 can therefore be accepted.

5.2.2 Findings of 'Third Party Assurance'.

The second part of the questionnaire contained nine questions regarding the trust mechanism 'TPA' and the related hypothesis H2. To investigate whether the use of TPA's influences the overall risk perception of online shoppers, a correlation analysis was performed

In the questionnaire, four TPA's were included, namely:

1. Thuiswinkelwaarborg and Safe2Shop and
2. MKB-OK and QShops.

Findings regarding Thuiswinkelwaarborg and Safe2Shop

Table 3 and Table 4 display the results of the correlation test of Thuiswinkelwaarborg and Safe2Shop. The correlation test reveals that the results of Thuiswinkelwaarborg and Safe2Shop show the same significant relationships. Therefore Thuiswinkelwaarborg and Safe2Shop are discussed together.

VAR0006 till VAR00014 in table 3 and table 4 correspond with the numbers of the questions in the questionnaire. In table 3 VAR0006 stands for Thuiswinkelwaarborg, which is why only the first column is relevant. In table 4 VAR0007 stands for Safe2Shop, which is why only the first column is relevant.

Table 3 Results of the correlation analysis regarding the TPA Thuiswinkelwaarborg.

		Correlations				
		VAR00006	VAR00011	VAR00012	VAR00013	VAR00014
VAR00006	Pearson Correlation	1	,319**	-,010	,262**	,395**
	Sig. (2-tailed)		,000	,912	,003	,000
	N	189	179	127	129	129
VAR00011	Pearson Correlation	,319**	1	,549**	-,046	,073
	Sig. (2-tailed)	,000		,000	,609	,412
	N	179	179	126	128	128
VAR00012	Pearson Correlation	-,010	,549**	1	,178*	,287**
	Sig. (2-tailed)	,912	,000		,046	,001
	N	127	126	127	127	127
VAR00013	Pearson Correlation	,262**	-,046	,178*	1	,714**
	Sig. (2-tailed)	,003	,609	,046		,000
	N	129	128	127	129	129
VAR00014	Pearson Correlation	,395**	,073	,287**	,714**	1
	Sig. (2-tailed)	,000	,412	,001	,000	
	N	129	128	127	129	129

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 4 Results of the correlation analysis regarding the TPA Safe2Shop.

		Correlations				
		VAR00007	VAR00011	VAR00012	VAR00013	VAR00014
VAR00007	Pearson Correlation	1	,431**	,089	,184*	,230**
	Sig. (2-tailed)		,000	,320	,036	,009
	N	188	179	127	129	129
VAR00011	Pearson Correlation	,431**	1	,549**	-,046	,073
	Sig. (2-tailed)	,000		,000	,609	,412
	N	179	179	126	128	128
VAR00012	Pearson Correlation	,089	,549**	1	,178*	,287**
	Sig. (2-tailed)	,320	,000		,046	,001
	N	127	126	127	127	127
VAR00013	Pearson Correlation	,184*	-,046	,178*	1	,714**
	Sig. (2-tailed)	,036	,609	,046		,000
	N	129	128	127	129	129
VAR00014	Pearson Correlation	,230**	,073	,287**	,714**	1
	Sig. (2-tailed)	,009	,412	,001	,000	
	N	129	128	127	129	129

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Financial risk. Table 3 and Table 4 show that the more people are familiar with these two TPA's (VAR0006 and VAR0007), the more they are concerned that sensitive information will be stolen or intercepted (VAR00011). Familiarity with a TPA will have a negative effect on the financial risk perception of e-commerce participants. On the first hand this relationship does not seem plausible. The relationship indicated by the correlation test is however a

statistical relationship and not a causal relationship (cause and consequence relationship), meaning that the concern people have regarding the safety of transmitted financial information may be caused by a third variable and thus not by the familiarity with the TPA.

Product performance risk. Regarding the product performance risk perception (VAR00012) no significant relationship was found with familiarity with a TPA, meaning that familiarity with a TPA will have no impact on the product performance risk perception.

Psychological risk. Another statistical relationship indicated by **table 3 and Table 4** is that the more people are familiar with Thuiswinkelwaarborg and Safe2Shop, the more likely they are to provide their personal information to a web vendor associated with one of the previous mentioned TPA's (VAR00013). Making use of these TPA's will have a positive impact on the psychology risk perception of e-commerce participants.

Time/convenience risk. A final significant relationship indicated by the **table 3 and Table 4** is that the more familiar one is with the previous mentioned TPA's, the more likely one is to believe that he or she will receive the merchandise according to the terms and conditions (VAR00014) if the web vendor is associated with that TPA. Familiarity with a TPA will have a positive impact on the Time/ convenience risk perception.

Reflecting on hypothesis H2, TPA'S have a positive influence on the overall risk perception of online shoppers.

Overall risk. Regarding Thuiswinkelwaarborg and Safe2Shop it can be stated that these TPA have a positive influence on psychology and time/ convenience risk perception but not on financial and product performance risk perception.

Findings regarding MKB-OK and Qshops

A correlation test for MKB-OK and Qshops, reveals that the results for MKB-OK and Qshops show the same significant relationships. There for MKB-OK and Qshops are discussed together. **Table 5** and **Table 6** display the results of the correlation test of MKB-OK and Qshops.

VAR0006 till VAR00014 in **table 5 and table 6** correspond with the numbers of the questions in the questionnaire. In **table 5** VAR0008 stands for MKB-OK, which is why only the first column is relevant. In **table 6** VAR0009 stands for Qshops, which is why only the first column is relevant.

Table 5 Results of the correlation analysis regarding the TPA MKB-OK.

		Correlations				
		VAR00008	VAR00011	VAR00012	VAR00013	VAR00014
VAR00008	Pearson Correlation	1	,481**	,079	,097	,047
	Sig. (2-tailed)		,000	,379	,281	,599
	N	182	174	125	126	126
VAR00011	Pearson Correlation	,481**	1	,549**	-,046	,073
	Sig. (2-tailed)	,000		,000	,609	,412
	N	174	179	126	128	128
VAR00012	Pearson Correlation	,079	,549**	1	,178*	,287**
	Sig. (2-tailed)	,379	,000		,046	,001
	N	125	126	127	127	127
VAR00013	Pearson Correlation	,097	-,046	,178*	1	,714**
	Sig. (2-tailed)	,281	,609	,046		,000
	N	126	128	127	129	129
VAR00014	Pearson Correlation	,047	,073	,287**	,714**	1
	Sig. (2-tailed)	,599	,412	,001	,000	
	N	126	128	127	129	129

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 6 Results of the correlation analysis regarding the TPA Qshops.

		Correlations				
		VAR00009	VAR00011	VAR00012	VAR00013	VAR00014
VAR00009	Pearson Correlation	1	,484**	-,057	,072	,050
	Sig. (2-tailed)		,000	,528	,417	,572
	N	187	179	127	129	129
VAR00011	Pearson Correlation	,484**	1	,549**	-,046	,073
	Sig. (2-tailed)	,000		,000	,609	,412
	N	179	179	126	128	128
VAR00012	Pearson Correlation	-,057	,549**	1	,178*	,287**
	Sig. (2-tailed)	,528	,000		,046	,001
	N	127	126	127	127	127
VAR00013	Pearson Correlation	,072	-,046	,178*	1	,714**
	Sig. (2-tailed)	,417	,609	,046		,000
	N	129	128	127	129	129
VAR00014	Pearson Correlation	,050	,073	,287**	,714**	1
	Sig. (2-tailed)	,572	,412	,001	,000	
	N	129	128	127	129	129

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Financial risk. There is only a significant relationship between the familiarity with MKB-OK and Qshops and the financial risk perception (VAR00011). The more people are familiar with MKB-OK and Qshops the more they are concerned that their financial information might be stolen or intercepted. Just like Thuiswinkelwaarborg and Safe2Shop the relationship

indicated by the correlation test is a statistical relationship and not a causal relationship (cause and consequence relationship). This means that the concern people have regarding the safety of transmitted financial information, may be caused by a third variable and thus not by the familiarity with the TPA.

The familiarity with MKB-OK and Qshops does not have an effect on the product performance-, psychology- and time/ convenience risk perception.

Reflecting on the second hypotheses H2: TPA'S have a positive influence on the overall risk perception of online shoppers, regarding MKB-OK and Qshops it can be stated that these TPA's have no influence on overall risk perception. So hypothesis H2 have to be rejected for MKB-OK and Qshops.

The differences between the findings of Thuiswinkelwaarborg and Safe2Shop on the one hand and MKB-OK and Qshops on the other hand can be the result of familiarity and maturity of these TPA's.

5.2.3 Findings of 'Online feedback mechanism'.

Part 3, question 15 to 19 of the questionnaire, were designed to obtain information about the impact online feedback mechanisms have on the product performance risk. In order to come to a valid answer a one sample T-test and a correlation test is performed. The third column of **Table 7** contains the mean values and the fourth column of **table 8** contains the significance (p value). Recall that the test value is 4, the mean of a seven based Lickert scale. VAR00015 till VAR00019 correspond with the number of the questions in the questionnaire.

Table 7 One sample statistics of the trust mechanism online feedback

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
VAR00015	125	2,5600	1,94024	,17354
VAR00016	124	2,2097	1,52632	,13707
VAR00017	124	2,0081	1,57468	,14141
VAR00018	125	3,9600	2,22667	,19916
VAR00019	124	4,2581	2,03174	,18246

Table 8 One sample test of the trust mechanism online feedback

One-Sample Test						
	Test Value = 4					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
VAR00015	-8,298	124	,000	-1,44000	-1,7835	-1,0965
VAR00016	-13,062	123	,000	-1,79032	-2,0616	-1,5190
VAR00017	-14,086	123	,000	-1,99194	-2,2718	-1,7120
VAR00018	-,201	124	,841	-,04000	-,4342	,3542
VAR00019	1,414	123	,160	,25806	-,1031	,6192

Questions 15 to 17 all scored significantly low (mean less than 4 and p less than 0.005), meaning that e-commerce costumers rarely provide feedback (VAR00015) and seldom or never complete a survey of a web vendor (VAR00016) in order to positively affect the product performance risk perception. E-commerce costumers also rarely use chat rooms to communicate with other e-commerce costumers (VAR00017). According to literature a low feedback rate may provide e-commerce customers with falsely or misleading feedback. The gap that exist between enough en not enough feedback to generate a representative opinion, is a serious short coming of this trust mechanism. A careful conclusion can be drawn that e-commerce customers do not actively provide feedback regarding product performance risk.

Question 18 resulted in a mean less than 4, but not significantly low ($p= 0,841$), meaning that e-commerce costumers are neutral when it comes to use feedback to make a purchase decision. The previous conclusion drawn can be modified to: e-commerce customers are more likely to use feedback than they are to provide feedback regarding the usage of feedback mechanisms.

Besides the one sample T-test, a correlation test is also performed. **Table 9** provides the results of this test. Here we can see that the more an e-commerce customer makes use of online feedback (VAR00018), the more negative feedback will negatively affect his or her purchase behavior (VAR00019). Besides, online feedback mechanisms have a positive influence on the product performance risk perception. Reflecting back on the third hypothesis H3, Online feedback mechanisms have a positive influence on consumers' likelihood to purchase online, this hypothesis can be accepted.

Table 9 Results of the correlation analysis regarding feedback mechanism

		VAR00018	VAR00019
VAR00018	Pearson Correlation	1	,436**
	Sig. (2-tailed)		,000
	N	125	124
VAR00019	Pearson Correlation	,436**	1
	Sig. (2-tailed)	,000	
	N	124	124

** . Correlation is significant at the 0.01 level (2-tailed).

5.2.4 Findings of 'Familiarity with online vendor'.

Part 4, question 20 to 26 of the questionnaire, are designed to obtain information about the impact familiarity with the online vendor has on the overall risk perception. In order to come to a valid answer a one sample T-test is performed. The third column of Table 10 contains the mean values and the fourth column of table 11 contains the significance (p value) for the one sample T-test. VAR00020 till VAR00026 correspond with the number of the questions in the questionnaire.

Table 10 One sample statistics of the trust mechanism familiarity with online vendor

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
VAR00020	121	4,9587	1,35029	,12275
VAR00021	121	4,0992	1,71952	,15632
VAR00023	119	5,1176	1,58476	,14527
VAR00024	120	5,1667	1,35556	,12374
VAR00025	118	5,2881	1,59648	,14697
VAR00026	119	5,4286	1,57615	,14449

Table 11 One sample test of the trust mechanism familiarity with the online vendor

One-Sample Test						
	Test Value = 4					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
VAR00020	7,810	120	,000	,95868	,7156	1,2017
VAR00021	,634	120	,527	,09917	-,2103	,4087
VAR00023	7,693	118	,000	1,11765	,8300	1,4053
VAR00024	9,428	119	,000	1,16667	,9216	1,4117
VAR00025	8,765	117	,000	1,28814	,9971	1,5792
VAR00026	9,887	118	,000	1,42857	1,1425	1,7147

In this section of the questionnaire respondents were first asked to reflect on two web vendors they recently purchased from. With the two web vendors in mind the respondents stated the following:

Financial Risk. Respondents stated that they trusted this web vendor to guard their sensitive financial information in such a way that it will not be disclosed unauthorized or stolen (VAR00023). This indicates that familiarity with the web vendor positively impacts the financial risk perception.

Product performance risk. Respondents stated that they trusted that the products offered by this Internet retailer will have a proper price-quality ratio (VAR00024), indicating that familiarity with the web vendor positively impacts the product performance risk perception.

Psychological risk. Respondents stated that they trusted this Internet retailer to safeguard their personal information and respect their privacy (VAR00025), indicating that familiarity with the web vendor positively impacts the psychology risk perception.

Time/convenience risk. Respondents stated that they trusted this Internet retailer to deliver the merchandise in time or according to agreement (VAR00026), indicating a positive relationship with time/ convenience risk perception.

However e-commerce costumers are neutral when it comes to loyalty to the web vendors they indicated. This means that they are willing, even when they are satisfied with the price of the merchandise and the service of the web vendor, to switch to another web vendor (VAR00021 and VAR00022). Reflecting on the fourth hypothesis H4, Familiarity with a

web vendor increases overall risk perception, a conclusion can be drawn that familiarity positively impacts all four risk area's indicating a positive impact on overall risk perception.

5.2.5 Findings of 'Vendor's reputation'.

Part 5, questions 27 to 30 of the questionnaire were designed to obtain information about the impact a vendor's reputation has on the overall risk perception. In order to come to a valid answer a one sample T-test was performed. The third column in **Table 12** contains the mean value which is important to the analysis and the fourth column in **table 13** contains the significance (p value) of the one sample T-test. VAR00027 till VAR00030 correspond with the number of the questions in the questionnaire.

Table 12 One sample statistics of the trust mechanism: vendor's reputation.

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
VAR00027	116	4,1121	1,72335	,16001
VAR00028	118	4,2627	1,53271	,14110
VAR00029	116	4,3621	1,72146	,15983
VAR00030	110	4,9000	1,67524	,15973

Table 13 One sample test of the trust mechanism: vendor's reputation.

One-Sample Test						
	Test Value = 4					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
VAR00027	,700	115	,485	,11207	-,2049	,4290
VAR00028	1,862	117	,065	,26271	-,0167	,5421
VAR00029	2,265	115	,025	,36207	,0455	,6787
VAR00030	5,635	109	,000	,90000	,5834	1,2166

This section of the questionnaire started by introducing the following scenario to the respondents: You are considering purchasing something from an internet retailer you are not familiar with. You know this vendor from the media (Television, Radio, Magazine etc). The respondents had to indicate their risk perception, questions 27 to 30, with this scenario in mind.

Financial risk. The mean of the indicated answers is 4.1121 with a significance of 0.485. Because 0.485 is greater than 0.005, 4.1121 does not significantly differ from the mean. E-commerce costumers indicate that a vendor's reputation has a neutral impact on financial perceived risk (VAR00027).

Product performance risk. VAR00028 addresses the product performance risk perception. The mean of the indicated answers is 4.2627 with a significance of 0.065. Because 0.065 is greater than 0.005, 4.2627 does not significantly differ from the mean. So the respondents indicate that a vendor's reputation has a neutral impact on the product performance risk perception.

Psychology risk. VAR00029 addresses psychology risk perception. The respondents indicated that they are more then neutral (mean of 4.3621) when it comes to psychology risk perception, but because the significance of 0,025 is greater than 0.0005 4.3621 does not differ significantly from the mean. So, a vendor's reputation has a neutral impact on psychology risk.

Time/convience risk. Also for the time/ convenience risk perception (VAR00030), respondents were more then neutral 4.9000. Because the significance of 0,000 is less than 0.0005 4.9000 differs significantly from the mean. A vendor's reputation has a more positive impact on time/convience risk perception.

A vendor's reputation has either a neutral or positive impact on all four risk areas. Therefore the fifth hypothesis H-5: A web vendor's positive reputation influences consumers' overall disposition to trust, can be accepted.

5.3 Responsiveness towards trust mechanisms

This paragraph addresses the first central research question: To which specific trust-building mechanisms are Dutch e-commerce consumers most responsive? Considering e-commerce revenue boosts in 2001/2002 after the internet bubble, e-commerce is relatively young and needs further maturing. According to a study conducted by the Forrester Institute, the prospects are very positive (Forrester, Dutch eCommerce Forecast: 2006 To 2011). Because e-commerce is relatively young, certain trust mechanisms such as encryption, online feedback mechanisms end Third Party Assurance (TPA), also need further maturing.

Familiarity with the online vendor and the vendors' reputation both, had a positive influence on over all risk perception. This means that when it comes to making online purchases, people tend to make decisions instinctively rather than rationally. On average people are not likely to spend time investigating the trustworthiness of online web vendors. Evaluating the scores of the respondents, we may conclude that vendors' reputation and familiarity with the online vendor are the most effective trust mechanisms.

In the questionnaire the respondents were asked to mention the two web stores that they recently purchased from. **Table 14** contains the answers to this question. The answers show that companies that have a bigger budget for marketing are more often used to make a purchase (Vendor's reputation). The big three (Bol.com, H&M.nl and Wehkamp.nl) also all encrypt financial information, have the option to provide online feedback, and are associated with one of the previous mentioned TPA, except H&M.nl. An important aspect is that they also have the option of paying afterwards, by means of acceptgiro. So the costumer is at very low risk. This enables costumers to become familiar with the web vendor, the procedures and products (familiarity with the online vendor).

A special category is eBay. eBay is a virtual market where individuals can sell to other individuals or where vendors can sell to individuals and does not have the typical characteristics of a company. This is the reason why eBay is excluded in this discussion.

Table 14 Most commonly visited web vendors

Web Vendor	Percentage
www.Bol.com	30.21
www.eBay.com	15.63
www.H&M.nl	14.58
www.Wehkamp.nl	9.38
23 Other vendors	30.20

5.4 Other factors influencing the growth of the e-commerce market.

Although the answer to this question is not directly answered by this research, it is still interesting to look at other factors that may have caused the growth of the Dutch e-commerce market. **Figure 17** shows the relationship between the internet users' rate and the e-commerce participants.

This figure shows that the more people use internet, the more people engage in e-commerce transactions. A study conducted by Blauw research, suggest that there is a strong relationship between these two factors (Thuiswinkel markt monitor 2007).

Companies are adapting their business models to online strategies. Almost every line of business is represented in the Dutch virtual environment of the internet ranging from restaurants and fast food chains to clothing and grocery, to online education. Also, a lot of banks and government services can be obtained online and visa acquirements can only be obtained online. This may cause increasing internet familiarity and internet usage, which may lead to higher e-commerce participants rates.

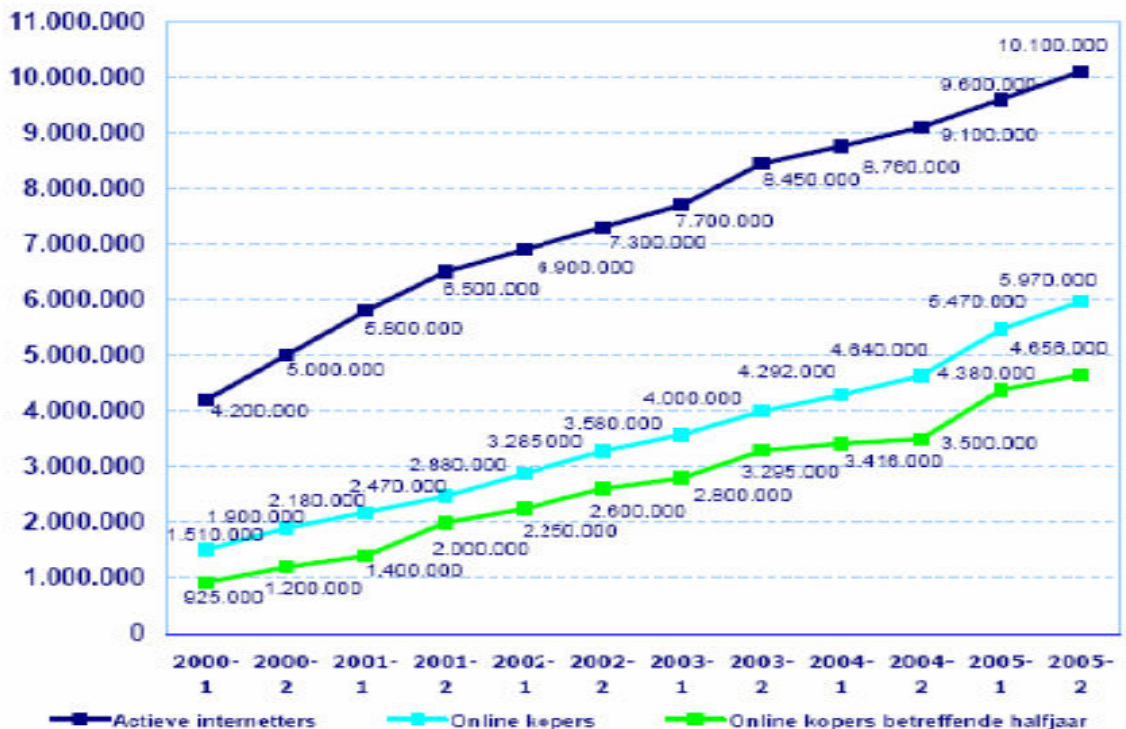


Figure 17 The relationship between internet users and e-commerce revenues (Source: CBS, Webmagazine, woensdag 26 maart 2008)

5.5 Contribution of trust mechanisms to the growth of e-commerce

In this research five (5) trust mechanisms were addressed. Familiarity with the online vendor and vendor's reputation were the most effective ones. The answers given in table 13 reveals that companies that have an adequate budget for marketing campaigns are perceived to be less risky.

We can therefore conclude that familiarity with the online vendor and vendor's reputation combined contributed more to the growth of the Dutch e-commerce market than encryption, online feedback and TPA combined.

5.6 Limitations.

For research recent data is essential. Although a survey was conducted, a drawback of this research is that some data were not up-to-date and lagging two to five years. For example there is only e-commerce revenue data available up to 2006 and data regarding the internet users up to 2005. Besides, for some more recent data payment was required.

Besides up-to-date data, a probability sampling method where all respondents in the population have an equal chance of being selected, a random selection, is also essential. A probability sampling method gives a representative opinion about the population. Because of time and budget constraints a non-probability sampling method is applied. This may lead to a not representative conclusions of this research.

In this research a research framework was developed to visualize the relationships for the testing of the central research questions and related hypotheses that were tested. For this research framework some assumptions were made. For example, it was assumed that encrypted transactions only influenced financial risk perception. Additional research regarding the influence of the trust mechanisms on the risk areas is recommended. Due to time constraints and the scope of this research, no further research regarding the influence of trust mechanisms on risk areas were carried out. The impact of the use of the internet on the participation in online transactions also needs additional research.

Chapter 6 Conclusion and further research

6.1 Introduction

This chapter summarizes the overall conclusion of the research regarding the contribution of popular trust mechanisms to the growth of the Dutch e-commerce market. Furthermore some recommendations for further research are advised.

6.2 Conclusion

The resistance to e-commerce of Dutch consumers and the effect of trust building mechanisms on consumers' disposition to trust was investigated. The effects of trust building mechanisms on the different types of perceived risk when engaging in online transactions, are not straight forward. The answers obtained indicate the following:

Financial risk is positively affected by encryption, negatively affected by TPA's, positively affected by familiarity with the online vendor, and neutrally affected by vendor's reputation.

Product performance risk is negatively affected by TPA's, positively by online feedback mechanisms, positively by familiarity with the online vendor, and neutrally by vendor's reputation.

Psychology risk is positively affected by TPA's (only for thuiswinkelwaarborg and Safe2Shop), positively by familiarity with online vendor, and neutrally by the vendor's reputation.

Time/ convenience risk is positively affected by TPA's (only for thuiswinkelwaarborg and Safe2Shop) positively by familiarity with online vendor, and positively by the vendor's reputation.

A vendor that is seeking the trust of online shoppers, could therefore preferably invest in all five trust building mechanisms, as the cumulative approach will have the greatest impact. Also, certain trust mechanisms such as TPA's (especially regarding MKB-OK and Qshops), need to mature further and become more familiar to the public.

Regarding the contribution of the trust mechanisms to the growth of e-commerce, familiarity with the vendor and vendor's reputation have the highest effect on overall perceived risk.

6.3 Further research

Additional research may focus on the differences in customer-perceived risk with regard to specific product types, prices and brands. These aspects will lead to a less general conclusion regarding the most effective trust mechanism. Perceived risk and the development of trust may be dependent on:

1. The price: people may be more likely to accept risk regarding purchases up to a set price (e.g. €20).
2. Product type: purchasing books may be perceived to be less risky than purchasing electronics or clothes.
3. Brand of the product: familiar or popular brands may be perceived to be less risky than unknown brands. For example, Nike may be perceived less risky to purchase online than some other unknown brand. Blackberry may be perceived to be less risky to purchase online than an unknown new brand.

Future research may also focus on a qualitative research approach such as consulting and interviewing managers of large, mid, and small companies. Also the use of existing data regarding e-commerce, such as data at the Dutch office for statistics (CBS) and Blauw research. Although such a research approach may be very time consuming and costly, it may give a complementary insight in the relation of trust and e-commerce.

When time and budget constraints are not of concern, a random selection can be applied by seeking the cooperation of all, or the major, internet providers. Using their client base for a random selection can give a more representative conclusion about the implication of trust on e-commerce.

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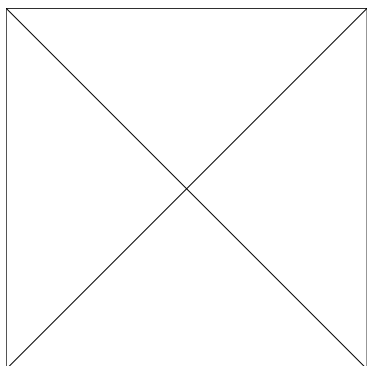
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Appendices

Appendix 1 Rules of conduct Thuiswinkel.org

Artikel 1 - Basisprincipes

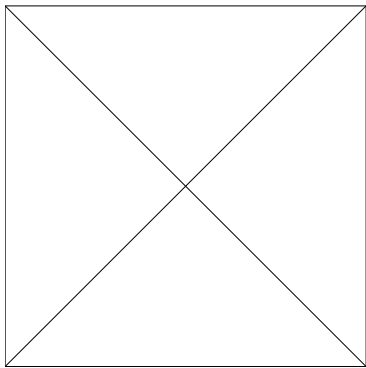
1. Elk bedrijf verbindt zich ertoe om de gedragscode zowel naar de letter als naar de geest na te leven.
2. Elk bedrijf moet de wet en de van toepassing zijnde regelgeving naleven, in het bijzonder de bepalingen in het Burgerlijk Wetboek betreffende de bescherming van de consument bij op afstand gesloten overeenkomsten en de Wet bescherming persoonsgegevens alsmede specifieke wet- of regelgeving met betrekking tot de aangeboden producten en/of diensten.
3. Elk bedrijf verbindt zich er ook toe de zelfregulering na te leven die Thuiswinkel.org onderschreven heeft. Een overzicht van deze zelfregulering is opgenomen in de bijlagen I en II bij deze Gedragsregels. Bedrijven die niet de Algemene Voorwaarden Thuiswinkel onderschrijven, dienen zich geconfirmeerd te hebben aan andere, voor hun branche specifieke, algemene voorwaarden waarin voorzien is in een adequate geschillenregeling.
4. In de mate van het mogelijke moet elk bedrijf de wettelijke belangen van de consument tot wie hij zich richt in acht nemen, alsook de belangen van algemene aard zoals de bescherming van het milieu, het recht tot respect van het privé-leven van de consument, de fabricagevoorwaarden van de producten en dergelijke.



Artikel 2 - Informatieplicht

1. Elk bedrijf vermeldt tijdig voor de totstandkoming van de overeenkomst zijn identiteit, zijn inschrijfnummer van de Kamer van Koophandel en zijn feitelijke adres, waarbij niet volstaan kan worden met het vermelden van een postbusnummer.
2. Elk bedrijf, dat op zijn website of per e-mail, of langs een andere elektronische weg, goederen of diensten aanbiedt, dient ervoor zorg te dragen dat de volgende gegevens gemakkelijk, rechtstreeks en permanent toegankelijk zijn voor degenen die gebruik maken van deze dienst:
3.
 1. gegevens die een snel contact en een rechtstreekse en effectieve communicatie mogelijk maken, met inbegrip van zijn elektronische postadres;
 2. voor zover een activiteit aan een vergunningstelsel is onderworpen: de gegevens over de bevoegde toezichthoudende autoriteit;
 3. voor zover het bedrijf een gereguleerd beroep uitoefent :
 - o de beroepsvereniging of organisatie waarbij het is ingeschreven,

- de beroepstitel en de lidstaat van de Europese Unie of andere staat die partij is bij de Overeenkomst betreffende de Europese Economische Ruimte waar die is toegekend,
 - een verwijzing naar de beroepsregels die in Nederland van toepassing zijn en de wijze van toegang daartoe;
 - het btw-identificatienummer.
4. Indien er voor de consument kosten verbonden zijn aan de communicatie, anders dan het normale tarief, dient dit duidelijk vermeld te worden.
 5. Elk aanbod dient zodanige informatie te bevatten, dat voor de consument duidelijk is wat de rechten en verplichtingen zijn, die aan de aanvaarding van het aanbod zijn verbonden. Dit betreft in het bijzonder de prijs, het herroepingrecht, de wijze van betaling, de minimumduur van de overeenkomst op afstand, de verzendkosten en overige condities.

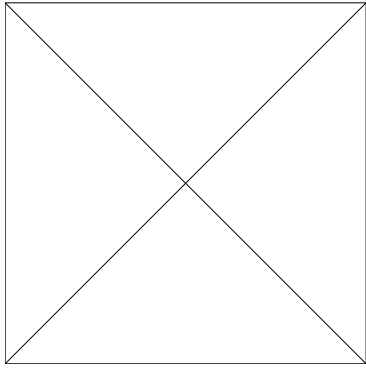


Artikel 3 - Bestelling

1. Tijdig bij de nakoming van de overeenkomst en uiterlijk bij de aflevering moet de consument schriftelijk of op een andere duurzame drager de volgende informatie worden verstrekt:- de voorwaarden waaronder en de wijze waarop de consument van het herroepingrecht gebruik kan maken;
 - hoe en op welk adres de consument met klachten terecht kan;
 - de informatie over service na aankoop en commerciële garanties;
 - de voorwaarden, waaronder de overeenkomst opgezegd kan worden, indien de verwachte duur langer dan een jaar is.
2. Tenzij anders overeengekomen dient het bedrijf geaccepteerde bestellingen met bekwame spoed doch tenminste binnen 30 dagen uit te voeren. Indien dit om welke reden dan ook niet mogelijk blijkt, ontvangt de consument hiervan uiterlijk één maand nadat hij de bestelling geplaatst heeft bericht. De consument heeft in dat geval het recht om de bestelling zonder kosten te annuleren, tegen terugbetaling van het eventueel reeds betaalde.
3. Iedere bestelling van een goed of dienst, zonder dat daar een order of overeenkomst aan ten grondslag ligt, wordt geacht ongevraagd toegezonden te zijn.

Artikel 4 - Vervangende goederen of diensten

Voorafgaand aan het sluiten van de overeenkomst zal de consument op duidelijke wijze geïnformeerd worden over de mogelijkheid dat vervangende goederen of diensten van tenminste gelijke kwaliteit en prijs beschikbaar worden gesteld, indien de oorspronkelijk bestelde goederen of diensten niet beschikbaar zouden zijn. Bij vervangende artikelen kan de zichttermijn niet worden uitgesloten en zijn de kosten van retourzending altijd voor rekening van het bedrijf.

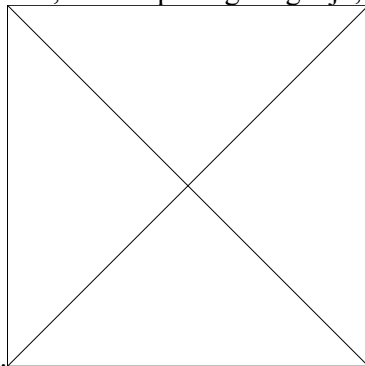


Artikel 5 - Herroepingsrecht

1. De consument heeft het recht zonder opgave van redenen de goederen te retourneren of van de dienst af te zien binnen een periode van tenminste ten minste zeven werkdagen, ingaande de dag na ontvangst door of namens de consument of de dag van het sluiten van de overeenkomst met betrekking tot de dienst.
2. Elke uitzondering op het herroepingsrecht, bijvoorbeeld op grond van de specifieke aard van de betreffende goederen of diensten, is alleen toegestaan indien dit ook wettelijk is toegestaan; een dergelijke uitzondering dient uitdrukkelijk voorafgaande aan de totstandkoming van de overeenkomst vermeld te zijn.
3. Tijdens de herroepingstermijn heeft de consument de mogelijkheid om zonder enige verplichting zijnerzijds, anders dan tegen vergoeding van de rechtstreekse kosten van terugzending, de ontvangen goederen te retourneren, dan wel om te kennen te geven dat van de aangeboden diensten geen gebruik wordt gemaakt.
4. De consument kan alleen daadwerkelijk gebruik maken van zijn herroepingsrecht indien de betreffende goederen compleet, onbeschadigd, ongebruikt zijn en in de originele verpakking geretourneerd worden.
5. De consument kan de zichttermijn uitsluitend daadwerkelijk inroepen op de wijze die door het bedrijf bij het aanbod en/of bij de aflevering is aangegeven. Deze wijze mag voor de consument nooit onredelijk bezwarend zijn.

Artikel 6 - Terugbetaling

Indien de consument een bedrag vooruitbetaald heeft en indien de overeenkomst waarop die vooruitbetaling betrekking heeft niet tot stand komt of op basis van het herroepingsrecht ontbonden wordt, zal zo spoedig mogelijk, doch uiterlijk binnen dertig dagen terugbetaling

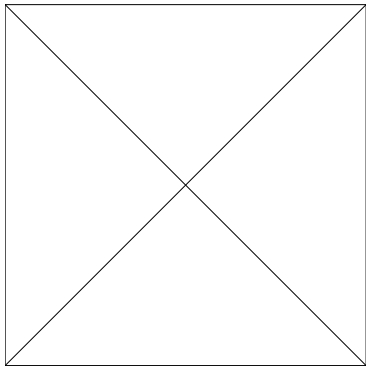


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Artikel 7 - Privacy

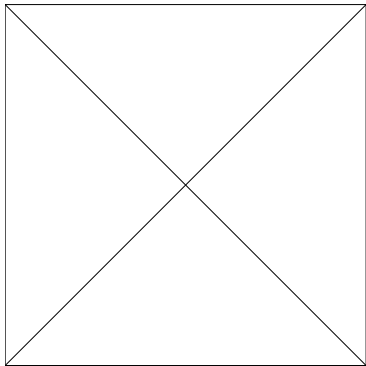
1. De bedrijven dienen bij het gebruik van persoonsgegevens de bijzondere zorgvuldigheid in acht te nemen zoals is voorgeschreven in de nationale regelgeving.
2. Indien de consument aan het bedrijf te kennen heeft gegeven geen commerciële communicatie per post, telefoon, e-mail en dergelijke te willen ontvangen, dient deze wens gerespecteerd te worden.

3. Het bedrijf is verplicht op het ogenblik dat een consument zijn e-mailadres achterlaat op zijn website, hem te informeren over wat daarmee gebeurt. Daarmee heeft de consument de mogelijkheid aan te geven of hij al dan niet commerciële e-mails wenst te ontvangen. Tevens dient het bedrijf voor het verstrekken van e-mail adressen aan derden dezelfde mogelijkheden aan de consument te bieden.
4. Indien het bedrijf het initiatief neemt tot het (laten) voeren van een commercieel telefoongesprek, dient de identiteit van het bedrijf en het commerciële doel van het gesprek aan het begin daarvan duidelijk gemaakt worden en zal het gesprek afgebroken worden indien de consument daartoe de wens te kennen geeft.



Artikel 8 - Grensoverschrijdende transacties

1. Bij grensoverschrijdende transacties binnen het gebied van de EMOTA Conventie mag, op voorwaarde dat de consument daarvan vooraf op de hoogte is, het recht toepasselijk verklaard worden, hetzij van de vestigingsplaats van het bedrijf, hetzij van de woonplaats van de consument.
2. In het geval dat het toepasselijke recht niet van tevoren aangegeven is, is het recht van het land waar de consument zijn woonplaats heeft van toepassing.



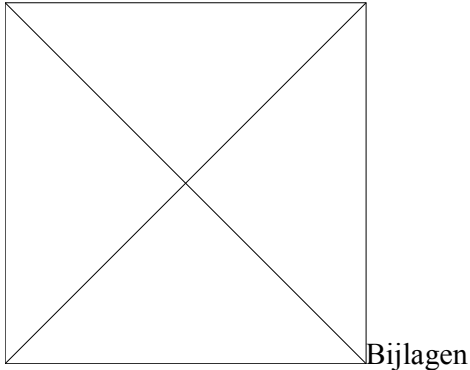
Artikel 9 - Geschillenbeslechting

1. In het geval van een geschil dient de consument eerst contact op te nemen met het bedrijf, door per post, fax of iedere andere vorm van schriftelijke communicatie zijn klacht uiteen te zetten. Het bedrijf dient de klacht binnen 30 dagen na ontvangst af te handelen.
2. Indien in deze periode geen oplossing gevonden kan worden, moet de consument daarvan op de hoogte gebracht worden, met een indicatie van de vertragingsduur.
3. Indien het geschil niet naar genoegen opgelost wordt moet de consument de mogelijkheid hebben het geschil voor te leggen aan een onafhankelijke geschillencommissie. Dit kan zijn de Geschillencommissie Thuiswinkel of elke andere bij de Stichting Geschillencommissie aangesloten branche geschillencommissie of bij een daaraan gelijkwaardige geschillencommissie.

4. In het geval van een grensoverschrijdend geschil kan de consument de zuster organisatie van Thuiswinkel.org in zijn woonland vragen te bemiddelen. In dat geval zal de bedoelde organisatie de klacht doorzenden naar Thuiswinkel.org.

Artikel 10 - Logo Thuiswinkel Waarborg

Alle reguliere leden van Thuiswinkel.org worden geacht het logo Thuiswinkel Waarborg, conform het Reglement Gebruik Logo's, te voeren.



1. Codes en Reglementen van de Nederlandse Thuiswinkel Organisatie
 - a. Statuten
 - b. Huishoudelijk Reglement
 - c. Gedragsregels Thuiswinkel Waarborg
 - d. Algemene Voorwaarden Thuiswinkel
 - e. Reglement gebruik Logo's
 - f. Code voor Sweepstakes
 - g. European Convention on Crossborder Mail Order and Distance Selling
2. Zelfregulering van derden, onderschreven door de Nederlandse Thuiswinkel Organisatie
 - a. Nederlandse Reclame Code
 - b. Code Brievenbusreclame, Huissampling en Direct Response Advertising
 - c. Code Verspreiding Ongeadresseerd Reclamedrukwerk
 - d. Code Telemarketing
 - e. ECP Gedragscode voor Elektronisch zakendoen.

Appendix 2 The questionnaire

Please read the following carefully:

- This survey is part of a Masters Thesis.
- This survey consists of 30 questions and will take approximately 15 minutes to complete.
- The results of this research will be made public.
- Your privacy will be respected. You do not need to disclose your personal information.
- Your cooperation is sincerely appreciated.
- Please take your time to fill in this survey
- Please answer the questions as honest as possible.
- All questions are scaled from 1 to 7. Please state your corresponding degree.

Trust mechanism: encrypted transactions. (Questions are self-formulated)

In an e-commerce environment encrypted transactions insure that financial transactions are not accessed by unauthorized people or parties and protect the content of that transaction. Simply put, encrypted transactions ensure that your credit card or debit card information will not be stolen/or unauthorized used by others.

1. How concerned are you that your financial information may be disclosed unauthorized/ stolen during an e-commerce transaction?

Not
Concerned 1 2 3 4 5 6 7 Very
 Concerned

2. How often do you pay your bills online?

Not
Often 1 2 3 4 5 6 7 Very
 Often

3. Are you able to check if the web-vendor/bank is encrypting the information?

Not
Able 1 2 3 4 5 6 7 Very
 Able

4. How often do you check whether the financial information you are about to send is encrypted?

Not
Often 1 2 3 4 5 6 7 Very
 Often

5. If the transaction is not being encrypted, how willing are you to provide your financial information?

Not 1 2 3 4 5 6 7 Very
Willing Willing

Trust mechanism: Third Party Assurance (TPA). (Questions are self-formulated)

In order to show consumers that they are worthy of trust web vendors display third party assurance (TPA) seals on their websites. These seals are evidence that the web vendor has met specific standards put forward by the seal-sponsoring organization. These specific standards are described in a third party assurance program.

A well known TPA seal in the auto garage industry is the BOVAG seal. In the e-commerce industry there are also TPA's such as: Thuiswinkelwaarborg, qshops etc.

6. How familiar are you with Thuiswinkel waarborg:

Not 1 2 3 4 5 6 7 Very
Familiar Familiar

7. How familiar are you with Safe2Shop:

Not 1 2 3 4 5 6 7 Very
Familiar Familiar

8. How familiar are you with MKB-OK:

Not 1 2 3 4 5 6 7 Very
Familiar Familiar

9. How familiar are you with QShops:

Not 1 2 3 4 5 6 7 Very
Familiar Familiar

10. How familiar are you with their assurance program.

Not 1 2 3 4 5 6 7 Very
Familiar Familiar

11. If the web vendor is associated with one of the previous mentioned TPA'S how concerned are you that sensitive information will be intercepted or stolen

Not 1 2 3 4 5 6 7 Very
concerned Concerned

12 If the web vendor is associated with one of the previous mentioned TPA'S how concerned are you regarding the price-quality ratio?

Not 1 2 3 4 5 6 7 Very
concerned Concerned

13 Are you more likely to provide your personal information if the web vendor is associated with one of the previous mentioned TPA'S.

Not 1 2 3 4 5 6 7 Very
Likely Likely

14 Are you more likely to believe that you will receive the merchandise according to the terms & conditions if the web vendor is associate with one of the previous mentioned TPA'S.

Not 1 2 3 4 5 6 7 Very
Likely Likely

Trust mechanism: Online feedback mechanism (Questions are derived from SurveyConsole:

<http://www.surveyconsole.com/console/showSurveyLibrary.do?surveyID=150&mode=1>)

In an e-commerce environment, consumers can not touch or feel the quality of the good they are about to purchase. To cope with this problem, consumers can read forums where online product feedback is made public by consumers that experienced that product earlier. These forums can be publicly owned or owned by the web vendor where one is about to make a purchase.

Reflecting on the Internet retailers you have purchased from, how often have you:

15. Provided online feedback on the products or services they sell

Never 1 2 3 4 5 6 7 Always

16. Reflecting on the Internet retailers you have purchased from, how often have you completed a survey for that Internet retailer

Never 1 2 3 4 5 6 7 Always

17. Reflecting on the Internet retailers you have purchased from, how often have you communicated with other users through e-mail or chat rooms

Never 1 2 3 4 5 6 7 Always

Please mention two internet vendors that you have recently purchased from.

Own questions:

18. How often do you use a feedback forum to purchase a product you are unfamiliar with?

Never 1 2 3 4 5 6 7 Always

19. How often have you changed your mind about buying something because of negative feedback?

Never 1 2 3 4 5 6 7 Always

Trust mechanism: Familiarity with online vendor. (Questions are self formulated)

Thinking back to your experience with the **Internet retailer you recently purchased from**, please indicate your degree of agreement with the following statements.

20. The price of the products and/or services I purchased from this Internet retailer is at the right level, given the quality.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

21. When it comes to making a purchase, this Internet retailer is my first preference.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

22. I prefer this Internet retailer to other Internet providers of its type.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

23. I trust that this Internet retailer will guard my sensitive financial information in such a way that it will not be disclosed unauthorized or stolen.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

24. I trust that the products offered by this Internet retailer will have a proper price-quality ratio

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

25. I trust this Internet retailer to safeguard my personal information and respect my privacy

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

26. I trust this Internet retailer to deliver the merchandise in time or according to agreement

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

Trust mechanism: Vendor's reputation.

Assume the following scenario: You are considering purchasing something from an Internet retailer you are not familiar with. You know this vendor from the media (Television, Radio, Magazine etc.). Please indicate your degree of agreement with the following statements:

27. I trust that this Internet retailer will guard my sensitive financial information in such a way that it will not be disclosed unauthorized or stolen.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

28. I trust that the products offered by this Internet retailer will have a proper price-quality ratio

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

29. I trust this Internet retailer to safeguard my personal information and respect my privacy

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

30. I trust this Internet retailer to deliver the merchandise in time or according to terms & conditions

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree