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Fall 11-28-2006

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# A Qualitative Analysis of Consumers' Perceptions of the Trustworthiness of e-Commerce

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**Abstract** — A lack of consumer trust hinders the development of electronic commerce. Although the importance of consumer trust in e-commerce is recognized and several studies have been done about the phenomenon, there is still confusion among researchers concerning different concepts related to trust. As an example, researchers have confused the concepts of consumer trust and trustworthiness and trust and risk. Furthermore, the lack of empirical studies concerning consumer trust has increased the confusion. This paper contributes by exploring what meanings consumers give to the less studied concept of trustworthiness in the context of e-commerce and by providing building blocks for further research. The findings of our study revealed altogether 11 different attributes of trustworthiness that consumers saw as important with respect to electronic grocery shopping.

**Keywords** — Trustworthiness, Consumer, Trust, Electronic Grocery Shop

## I. INTRODUCTION

In late 1990s e-commerce was expected to expand rapidly and become a part of consumers' everyday life. Nowadays some Internet-related services such as electronic newspapers and information searches are widely used by consumers, but there are only a few commercially successful fields of e-commerce. One of the reasons mentioned for the failure of expectations is consumer trust, or more likely the lack of trust [1].

The phenomenon of consumer e-trust (consumer trust in e-commerce) is discussed widely, and many conceptualisations concerning e-trust have been made [2]-[7]. However, many researchers have confused the concepts of consumer trust in e-commerce and trustworthiness of e-commerce [8]. Because of this there is only a limited number of empirical studies that have concentrated on the less studied concept of trustworthiness, which limits current understanding of the consumer trust-related phenomenon. This paper contributes by exploring different attributes of e-commerce trustworthiness from the consumers' point of view.

The aim of this paper is to *investigate what meanings consumers give to the trustworthiness of e-commerce*. The objective will be achieved through three goals. The first

goal is to discuss the concept of trustworthiness and describe its three major dimensions. The second goal is to empirically investigate what meanings consumers give to the trustworthiness of an electronic grocery shop. The third goal is to provide theoretical building blocks for further research based on our findings and current literature.

The current paper is divided into four sections. *Three Dimensions of Trustworthiness* presents a definition of trustworthiness and its three major dimensions (competence, benevolence, and integrity). The distinction between the concepts of consumer trust and trustworthiness of e-commerce is also addressed. *Method, Data Collection, and Analytical Approach* provides a specific demonstration of the method used (semi-structured theme interview) to gather and analyze the empirical material. *Findings* introduces the major findings of our study. In the *Conclusions* section, conclusions of our study are drawn and theoretical building blocks for further research are offered.

## II. DIMENSIONS OF TRUSTWORTHINESS

As mentioned earlier, the concept of trustworthiness is often confused with the concept of consumer trust [8]. Mayer, Davis and Schoorman (1995, 712) define trust as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party". In contrast, trustworthiness is a characteristic of a trustee, and by evaluating the trustworthiness of the trustee, the trustor can decide whether the trustee will be more or less trusted [9], [10].

Trustworthiness is seen as a multidimensional construct. The literature offers several dimensions, like honesty [11], consistency, openness [12], and competence [13]. However, recent literature concerning the trustworthiness of e-commerce suggests that three dimensions are the most relevant, namely competence, benevolence, and integrity (see Table 1.)

TABLE 1.  
DIMENSIONS OF TRUSTWORTHINESS IN E-COMMERCE LITERATURE

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

*Competence* means that someone can believe that the other party has the ability to do what is agreed [6], [13]. In the context of e-commerce this means, for example, that the consumer can be sure that the e-vendor has all the products available that are offered on their web site. *Benevolence* means that someone believes the other party will notice his/her interest [6], for example, the consumer can assume that the e-vendor will deliver ordered products in the most convenient way for the consumer. The third important dimension of trustworthiness in the context of e-commerce is *integrity* [4]. Integrity means that someone can believe the other party acts ethically, does not tell lies, and keeps promises. For example, the consumer can assume that the e-vendor does not overcharge or misuse his/her credit card [14].

### III. METHOD, DATA COLLECTION, AND ANALYTICAL APPROACH

The purpose of our empirical study is to explore what meanings consumers give to the trustworthiness of e-commerce. Due to the unexplored nature of the phenomenon, we decided to adopt a qualitative method, because we assumed that it would give us richer data than, for example, a survey. In other words, a qualitative method offers the possibility to reveal some attributes of trustworthiness that have not been introduced in earlier studies and to broaden our understanding of the phenomenon. Another reason for choosing a qualitative method was that there are only a few studies in literature that concentrate on the trustworthiness of an e-vendor, and those studies would not have offered us a sensible starting point for conducting a quantitative study.

In order to acquire an understanding of the researched phenomenon, we decided to interview the users of an electronic grocery shop (EGS). The reason for choosing an EGS as the domain for our empirical study was that we assumed the users of an EGS would experience issues related to trustworthiness as being more important than would, for example, the users of electronic newspapers. In other words, we considered that interviews done in the context of an EGS would ensure us a richer description of the phenomenon.

To get into contact with possible interviewees, we worked with an EGS that put an advertisement on their web site with a link to the questionnaire concerning our study. The reason for putting an advertisement on the EGS's web site was the difficulty of finding actual users of EGS in some other way. We also offered a gift token worth 20 euros to all the respondents who were selected for the actual interviews.

The questionnaire contained some questions concerning consumers' personal values. Based on the answers given to the questionnaire, we selected possible interviewees for the interviews. At the end, 156 respondents answered the questionnaire. From them we selected 10 interviewees. All the interviewees had at least some experience in using an EGS, and most of them were frequent users. Five of the interviewees were men and five were women. One was under 30 years old, eight were between 30–50 years, and one was over 50.

The empirical material was collected during the summer of 2004. The method used to gather the empirical material was a semi-structured theme interview. The themes in the interviews dealt with the three dimensions of trustworthiness (competence, benevolence, and integrity). As an example, we asked the informants if the amount of information concerning the e-vendor on the EGS's web site was adequate. By asking that we tried to find out the interviewees' views on the integrity of the EGS. The final interview guide contained several questions concerning all three dimensions of trustworthiness.

Before the actual interviews, two test interviews were held in order to test the functionality of the interview guide. The first test interview revealed that there were some difficulties with the logic of the interview guide. Thus, the interview guide was modified before the second test interview. No problems arose in the second test interview, and the actual interviews took place. After the interviews the material was fully transcribed and analyzed.

The analysis of the empirical material was conducted as follows. Firstly, the interview material was read several times. Secondly, the transcriptions were sorted according to the themes of the interviews. Thirdly, issues that arose from the interviews based on our analysis were written in memos

and read again in order to make sure the idea of the informants was captured. Lastly, the narratives concerning the different themes were sent via e-mail to the informants in order to confirm that we had interpreted their thoughts correctly. Next, the findings of our study are presented.

#### IV. FINDINGS

Our findings indicate that most of the issues concerning trustworthiness of an EGS appear in the *competence* dimension. Altogether eight different competence-related issues appeared in the interviews. Two of them were sufficient payment methods and home delivery of the groceries. The interviewees were satisfied because they felt the EGS was competent enough in offering different ways to pay for the groceries. The following quote illustrates sufficient paying methods. The interviewee does not even remember which payment methods the EGS offers, because he was satisfied with the one he used.

“Researcher: Do you consider the (payment) systems adequate?”

“Interviewee: Yes, there were also some other systems, but I don’t remember them...”

Also the home delivery of products manifested the EGS’s competence, because the way the groceries were delivered was considered efficient among the interviewees. They did not want to consider any other way of delivery because, for example, they liked the way the groceries were put directly in their fridge, as the following quote illustrates.

“Interviewee: During the summer time I prefer to order from the EGS because the groceries are refrigerated while they are delivered and they place the groceries directly into my fridge when they arrive..”

Furthermore, the interviewees considered the appearance of the product deliverer and the opportunity to cancel or change the delivery as features of a competent EGS. The next quote demonstrates one interviewee’s view on a competent product deliverer.

“Interviewee: The product deliverer should be customer service-minded.. I mean to be kind and normal and he should also do what is agreed.. you know, hold to the delivery time and so on.. well, those are the things which effect most.. whether it is pizza or anything else that is delivered home, it depends on what the person is like.. whether he is kind or not..”

Furthermore, the interviewees perceived the opportunity to cancel or change the delivery as a feature of a competent EGS:

“Researcher: Do you expect to be able to cancel the delivery?”

“Interviewee: Well, yes..because it does not.. well, of course if the deliverer is behind your door then it is naturally unfair.. but the consumer protection law says that you can cancel the order within seven.. or was it 14 days, so of course I should have the opportunity to cancel it..”

In contrast, changing the product order without the consumer’s permission annoyed the interviewees, because the EGS they use sometimes changed the product and did not inform the interviewees about the change. Therefore, the EGS was considered a bit incompetent.

“Researcher: Has anything unexpected happened with the EGS?”

“Interviewee: Some products have.. some products have been replaced without notification.. they have only informed me about the change in an invoice..”

“Researcher: What do you think about that?”

“Interviewee: Well, of course they could call if they change something.. But actually, they have been good products and it has not irritated me much.. But if they can’t deliver even the replacement, then they should call and inform me..”

Also the quality of perishable goods and the accuracy of delivery time were something the interviewees did not consider positive regarding the EGS’s competence. Especially the quality of perishable goods made the interviewees suspicious and they did not want to order those.

“Interviewee: If I were to order fresh products I would be very cautious.. I would feel a bit suspicious about the quality of the products, because you can’t see the fresh products like vegetables or meat..”

Also the accuracy of the delivery time offered by the EGS did not please the interviewees:

“Interviewee: I would like to know the exact time when the products will be delivered.. you know, so that I know with at least 30 minute accuracy when the deliverer will deliver the products..”

“Researcher: I think at this moment they can promise you two hours’ accuracy..”

“Interviewee: I think I could accept that.. but it would be more nice if they could offer me one hour accuracy..”

One competence-related issue was considered either positive or negative among the interviewees. That was the price level of the products. Some of the interviewees considered the prices of the products competent. On the contrary, some said the price level is too high and therefore they considered the EGS incompetent.

”Interviewee: Well, compared to traditional grocery shops.. yes, the prices are higher but, naturally, you have to pay for the service, and if you consider our needs.. we order a big amount of food twice a week, so the delivery fee isn’t so high anymore.. if you think that some of us would go shop with our own car and buy food.. well, it would be more expensive”

One issue emerged in the *benevolence* dimension that emphasizes the trustworthiness of the EGS; the response to feedback. The interviewees stressed that if some problems occurred and they needed to give feedback to the EGS, they wanted a fast response in order to solve the problem. That reflects the benevolence of the electronic grocery shop. If a response to the interviewees’ feedback was given immediately, the interviewees felt the EGS is really thinking about their best. In contrast, the EGS was considered untrustworthy if the interviewees did not get any response at all, or if it took a lot of time to answer their question. Some of the interviewees also said they would not use services provided by such a company again. The next quote illustrates the issue.

”Researcher: If you give feedback to a service provider.. so what kind of reaction would you expect from them?”

“Interviewee: Well, I think it’s always positive if you are contacted personally, either via e-mail or telephone.. you know, nowadays everyone is quite busy like I am too, so perhaps I would prefer e-mail.. Then I would like to have an answer explaining what they are going to do with my problem and when and how they are going to fix it.. Of course, if they can not fix the problem I would like to have an explanation of why the problem can’t be fixed..”

The *Integrity* dimension revealed two issues concerning the trustworthiness of an EGS. The interviewees mentioned that they need some explanations about how their personal information is used. If no explanations were offered, the interviewees did not consider the EGS trustworthy, or did not use the service, because they were not sure who is

going to get access to their personal information and where or how it is going to be used. This refers directly to the integrity of an EGS.

”Researcher: What do you think about services that require registration?”

“Interviewee: Uuum.. I think they are ok, if there is a clear explanation of how they are going to use my personal information.. I mean.. they have to tell me if my personal information is going to be used in some other registers, too..”

Another issue that appeared in the integrity dimension was information about the service provider, products and prices. Information about the service provider was mentioned by many interviewees. They also said they search for information actively. Actually it seems that information about the service provider is a basic requirement that the interviewees wanted to find on the service provider’s web site. Some of the interviewees also emphasized the reliability of the information, namely that the prices and the quality of the products was as promised on the EGS’s web site. The following quote illustrates the importance of information from one interviewee’s point of view.

”Researcher: Well, what do you consider as important features of an EGS’s web site?”

“Interviewee: Uum.. important features.. Well, you know.. basic reliability.. that is important. Then of course.. if they say a product costs X euros and the delivery fee is X euros, then there should be the same amount on the invoice, too.. And quality is also important..”

This section presented the findings of our study. Next, the conclusions and limitations of our study are discussed.

## V. CONCLUSIONS AND LIMITATIONS

In the current paper we discussed what meanings consumers give to the trustworthiness of e-commerce. According to our findings, we found eight competence, one benevolence and two integrity-related attributes of trustworthiness.

Compared to other studies concentrated on the trustworthiness of e-commerce (e.g. [3]), our findings revealed several new attributes of trustworthiness (e.g. sufficient payment methods, opportunity to cancel or change a delivery, response to feedback, etc.) that can be used in further research. Although our study was conducted in the context of electronic grocery shopping, our findings can be used, at least to some extent, in other contexts of e-commerce, too. For example, the opportunity to cancel or change a delivery, response to feedback, and the use of

personal information are examples of attributes that are usable in other contexts.

An interesting finding is that the competence dimension included eight attributes, but the other two dimensions altogether only three. Our findings raise a question: Are these three dimensions of trustworthiness, which are quite well accepted among e-commerce researchers, the most important ones? As mentioned earlier, literature regarding contexts other than e-commerce includes several other dimensions of trustworthiness, but only competence, benevolence, and integrity are adopted in e-commerce literature. However, our findings indicate that at least benevolence does not seem to be a very important dimension of trustworthiness from the consumers' point of view. Therefore, we can ask why cannot consistency and openness [12], for example, also be dimensions of trustworthiness in the context of e-commerce? We argue that also an e-vendor can be consistent and open, which could increase or decrease consumers' perception of trustworthiness.

Based on the preceding discussion, we argue that understanding the phenomenon of trustworthiness in e-commerce needs more attention, and especially more empirical research. The lack of empirical research makes the adoption of only these three dimensions somewhat vague. At least our study indicates that consumers are more interested in the e-vendor's competence than in benevolence and integrity. This generates a need to study the importance of these dimensions more deeply, but also to add other dimensions of trustworthiness suggested by earlier literature in the context of e-commerce, too.

The current study also has some limitations. Firstly, the number of interviewees is relatively low. However, the nature of a qualitative study is not to make generalizations, but to reveal new phenomena. The use of a qualitative study is well justified especially when there is a limited amount of empirical research concerning the phenomenon, as was the case in the current study, and the low number of interviewees, at least to some extent, can be excused.

Secondly, the current study concentrated only on the three dimensions of trustworthiness and ignored other factors that might have influence on consumers' perception of the trustworthiness of e-commerce. For example, consumers' past experiences in using e-commerce [19], [20], demographics like age and gender [21], and the service provider's web site (for example, the logic or usability of the web site) [5] were ignored in the current study, despite the fact that they are seen to have effect on consumers' behavior and trust in e-commerce. Therefore, it could be assumed that these issues might have an effect on the evaluations concerning the trustworthiness of e-commerce.

Our findings also have a practical contribution, because they brought up issues that consumers view as attributes of

trustworthiness or untrustworthiness. For example, an e-vendor can provide sufficient payment methods for consumers or provide an opportunity to cancel or change a delivery. Based on our findings, it could be argued that consumers' perceptions concerning the trustworthiness of an e-vendor are very important, because some of the interviewees mentioned that they simply do not use an e-shop that they perceive to be untrustworthy. So, our findings affirm that trust-related issues are very important, especially in e-commerce, as mentioned by many researchers (e.g. [1]).

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