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Modeling Customer Electronic Trust in Online Stores: A Risk Reduction Approach

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Abstract:

Today, science and technology are advancing at an unprecedented rate, further increasing the dependence on the Internet. For many years now, the Internet has been used to publish news, socialize, become entertained, etc. A more recent application of the Internet is the ability to trade goods and services, also known as electronic commerce. Attracting new customers to a website is a significant challenge in e-commerce. Research has shown that, when shopping online, customers perceive higher degrees of risk compared to traditional shopping. The customers' decisions are impacted by this risk, thus precluding the adoption of online shopping. The perceived risk is rooted in lack of trust in the credibility of stores and their owners. The purpose of this paper is to investigate the impact of trust on e-commerce transactions in order to identify factors that influence risk. Mechanisms for reducing risk are presented.

Keywords: electronic commerce, electronic trust, online shop, virtual communities.

I. Introduction

Throughout history, individuals have always searched for ways of communicating with each other to satisfy their needs. In the past, communications were mostly bound to physical presence. However, in the modern world, the proliferation of the internet has given rise to virtual communities which transcend physical boundaries and enable people to communicate in virtual communities [1, 2].

In recent years, these communities have extended to allow financial transactions as well as the buying and selling of products. This form of conducting business using the internet and electronic data is known as e-commerce [3]. Given its advantages over traditional ways of doing business, e-commerce has attracted exceedingly large numbers of customers. An important advantage of the concept involves cost and



time reduction which is extremely important in the modern world.

However, according to research, not all e-commerce websites are successful. Four key factors have been found to determine Business to Customer (B2C) buying intentions: content, design, security, and privacy [4]. These key factors are regarded as barriers to online purchases. Therefore, internet companies must establish to a full extent in order to gain customer trust [5, 6]. To do so, customer behavior needs to be assessed before risk reduction strategies can be devised to gain customer trust. This trust leads to customer acquisition [7] and encourages customers to buy online [8].

The remainder of this paper is organized as follows. Firstly, a precise definition of e-commerce is presented. Then, e-trust and its constituent components are discussed. Finally, a conceptual model of e-trust is given.

II. Theoretical Background

a. E-Commerce

E-commerce refers to the conduct of business activities using the internet [9, 10]. In fact, it is not just creating a website. Rather, it covers a variety of topics including ordering, hiring, bidding, and the exchange of information using information technology. In e-commerce, money may be moved using traditional or electronic means. E-commerce merchants often provide several ways of payment for their customers [11]. The most important issue in online payment systems involves security [12, 13].

E-commerce creates an opportunity for companies to increase their market share and enter international markets with minimum investment. With e-commerce, companies can

make better relationships with their customers which lead to increased sales as well as greater access to resources with lower cost [14].

b. E-trust

The notion of trust in traditional research dates back to the 1950s [15]. Different disciplines including philosophy, sociology, management, marketing, and e-commerce have investigated the topic from different perspectives. Thus, there is a large body of literature on the topic of trust. Nevertheless, in each discipline, the topic has different dimensions and aspects. Given the existing literature on offline trust, research endeavors on its online counterpart can begin with the former form [16, 17].

In this section, we first discuss the concept of trust and move on to the problem of establishing trust with customers [18]. According to Luhmann, “trust is a solution to risk [19]. Online trust adds valuable knowledge to the information regarding trust. Trust is the result of a set of safe beliefs regarding the ability, integrity, and benevolence of the trusted party [16]. The e-commerce environment involves a large number factors that affect customer trust [20]. A multi-disciplinary approach often seems to yield the best results [21]. Trust is an essential factor in e-commerce adoption [4].

Bart [22] argues that the internet is now an important marketing medium and is part of the multi-channel strategy in all companies. Following traditional shopping centers, the company online strategic framework needs to include different dimensions to guarantee success [22]. Online customer relationships are distinct in several aspects. Jiang [23] surveys numerous studies to conclude that online customers buy from websites which



they can trust [23]. Thus, the key to long-term success and competitive advantage is customer trust [24].

According to Lewicki, there are three dimension of trust: ability, honesty, and benevolence [25]. The first two dimensions seem to appear at a faster rate. Lewicki and Tomlinson believe that individuals carefully examine the rewards for being trustworthy and the barriers to breaking trust [26]. Another model identifies several factors that online companies need to have in order to establish customer trust. These factors known as *risk relievers* are security, privacy, branding, online experience, word of mouth, and information quality [20]. Table 1 presents other factors that increase online trust. These factors allow customers to realize the advantages of the website more easily [27].

Table 1. Factors increasing e-trust

Risk Relievers	Concept
Cheaper Brand	Choose a cheaper brand to buy
Special Offers	Buy from online merchants who provide special offers
Package information	Consider carefully the information on the package
Customer Journal	Research merchant in many journals

Risks often result in customer disappointment and reduced company credibility. Thus, online companies need to be aware of the risks and protect their assets while increasing their customers [4]. Greatorex and Mitchell [28] believe that risks are associated with customer perceptions and psychology. Furthermore, they also involve individual differences. Inherently, e-commerce has more risks compared to traditional ways of doing business because individuals need to engage

in new interactions [4].

Because the internet is less controllable, trust is a more important issue than traditional shopping [16]. When considering an online store, customer information is collected [29] and then distributed with the customer's knowledge. Many authors argue that trust is developed through recurring interactions. Establishing trust is a dynamic and time-consuming process which involves initial trust and recurring purchases until satisfaction and loyalty are achieved [16].

c. Risk Reduction Strategies

According to Wilder [30], there are numerous risk reduction strategies that include access control policies, physical security, environment security, and remote access policies. An information security program is a blend of both technical and non-technical efforts. Miasaki and Fernandez state that a key internet marketing strategy to increase trust in online interactions is to show that customer's privacy is guaranteed [31]. Technical aspects of privacy and security can be used to protect sensitive company assets which include the registration and authentication systems. Online protection refers to the protection of information against attacks [32]. E-commerce companies need to develop mechanisms that ensure security in customer transactions.

d. Background

The topic of trust in online stores had been extensively studied and a large number of factors have been identified. Table 2 summarizes the most important findings on the topic.

**Table 2. Previous works on e-trust**

No	Title	Authors	Description
1	A Trust Model for Consumer Internet Shopping	Matthew K. O. Lee and Efraim Turban (2001)	The findings indicate that merchant integrity and trust are the main components of customer trust in online contexts
2	The development of initial trust in an online company by new customers	Marios Koufaris William Hampton- Sosa (2002)	According to the results the primary cause of trust is protecting customer's information. Ease of use was also found to be very important.
3	Perspectives of online trust and similar constructs: a conceptual clarification	Sonja Grabner- Kr. Auterna, Ewald A. Kalsuscha (2003)	Lack of trust was found to be a major reason for lack of buying. The objective of the study was to present an overview of trust in the context of e-commerce.
4	Modelling Consumer Trust in Internet Shopping based on the Standard Learning Hierarchy: A Structural Approach	Francisco J. Martinez-Lopez, Francisco J. Mantoro- Rios (2003)	The authors argue that internet customers are influenced by the overall beliefs of other customers as expressed in online environments.
5	The development of initial trust in an online company by new customers	Marios Koufaris, William Hampton- Sosa (2004)	According to the results, the company's authority in providing certain services affects customer trust. Moreover, usability, ease of use, and security are important factors in gaining customer trust.
6	Consumer trust in e-commerce in the United States, Singapore and China	Thompson S.H. Teo, Jing Liu (2007)	The study investigates customer trust consequences in the US, Singapore, and China. The findings show that the credibility of the online selling system, confidence, and willingness are directly related to customer relationships.
7	Trust and risk in e-government adoption	France Be' Langer, Lemuria Carer (2008)	The study explores the impact of risk on individual tendencies to use e-government services. The results reveal a relationship between internet and government trust.
8	Role of trust transfer in E-commerce acceptance	Yang Qing, Huang Lihua, Xu Yunjie (2008)	The paper presents a novel way of improving e-trust.
9	An experimental evaluation of the effects of internal and external e-Assurance on initial trust formation in B2C e-commerce	Tammy Bahmanziari, Marcus D. Odom, Joseph C. Ugrin (2009)	The findings demonstrate that EPeA has no impact on customer trust but increases customer willingness to buy. On the other hand, IPeA improves trust.
10	The Role of Trust in E-Commerce Relational Exchange: A Unified Model	Prashant Palvia (2009)	The study focuses on the relationship between customer satisfaction and honesty.
11	The Effect of Perceived Ethical Performance of Shopping Websites on Consumer Trust	Hsien Yang, Chandrees Lin, Chao (2009)	The findings show that consumers tend to trust websites that establish good relationships with their customers.
12	An empirical study of	Chansu Kim, Wang Tao,	The authors argue that security improves trust which



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	customers' perceptions of security and trust in e-payment systems	Namchul Sin, Ki-Soo Kim (2010)	in turn affects e-commerce.
13	Evaluating the implementation of B2C website trust factors	Asadi (2006)	The results show that higher customer knowledge about the company and its products increase customer trust.
14	Identifying factors affecting trust in key banking clients (Case study: Karfarin Bank in Tehran)	Amirshahi and Ravanabad (2006)	Factor analysis revealed 12 factors influencing customer trust; however, only 10 were found to be valid. The factors are as follows: employees provide adequate information; complementary services; company credibility as perceived by the users; company technologies and processes; previous customer experiences; close customer relationships; service flexibility; and handling complaints.
15	Identifying internet banking trust factors using TAM (Case study: Melat Bank in Tehran)	Bashiri and Joneydi (2007)	The objective of the study is to examine the impact of customer trust on e-banking using the technology acceptance model.
16	Analyzing internet brand and its impact on customer trust and loyalty (Case study: buying cultural goods online)	Javanmard and Soltanzadeh(2009)	The paper determines how can benefit from enhanced branding and reiterates the opportunities for providing online services.
17	E-trust: the role of buying experience, knowledge information, and security	Latifi and MomenKashani (2010)	In addition to emphasizing the role of trust in e-commerce, the paper focuses on customer experience and knowledge as two factors that influence e-trust. A field study analyzes the impact of the factors in Iranian populations. According to the results, both factors influence trust among Iranian customers.

III. Conceptual Model

The study's proposed conceptual model shows the factors that influence e-trust in an online store. The model is depicted in Figure 1.

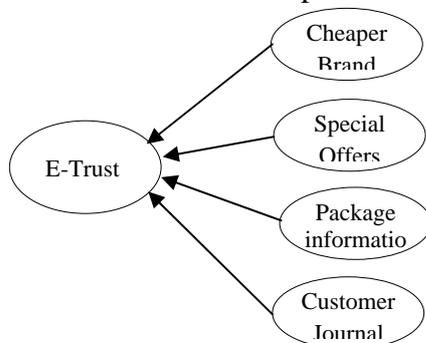


Figure 1. Conceptual model

IV. Discussion And Conclusion

In modern societies, science and technology are advancing at a rapid rate and the internet has transformed everyday lives. There are now countless website created for different purposes including virtual communities, communicating with friends, entertainment, and shopping.

In online shopping, trust is an important factor. Trust is a function of many factors both positive and negative. The negative factors are risks for online stores which are in fact concerns for customer and sometimes lead customers to opt out buying items online. Online stores need to identify these negative



factors and devise strategies that increase trust by reducing risk.

Trust can be established using a variety of criteria. An important criterion, here is protecting one's assets against risks. Companies need to create very strong systems to ensure customer security, privacy, and information safe keeping.

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