E-Commerce Web Sites Trust Factors:  
An Empirical Approach

Radwan M. Al-Dwairi

Department of Computer Information Systems  
Faculty of Information Technology, Al Albayt University, Mafraq, Jordan  
Radwan.al-dwairi@aabu.edu.jo

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Abstract
E-commerce web sites are attractive targets for web attackers. The wide media coverage about many successful attacks against many web sites makes e-customers more reluctant toward conducting online transactions via the web. The critical point in this situation is how to help e-customers decide whether a certain e-commerce web site is trusted or not and persuade them to proceed with their online transactions. Therefore, the major question that can be addressed is: what are the trust factors of e-commerce web sites in the eyes of e-customers? In this domain, the answer is not successfully addressed. Thus, this is considered as an important gap which should be filled. In response, this paper presents a novel approach which illustrates an empirical study that successfully identified the key factors for trusted e-commerce web sites.

Keywords: A trusted web site. E-commerce, security, privacy, TAM

1 Introduction

Establishing trust relationships in digital environments like web commerce involve more aspects than in the social world. This is because communications in virtual environments rely not only on relevant human beings and their relationships, but also on digital components and internet infrastructure. Moreover, it is more difficult to accumulate accurate information for trust purposes in remote digital communications where information can be easily altered or distorted by attackers [19]. Since the interactions between the transacting parties in the environment of e-commerce are done
via the trustee’s web sites using internet as a transformation channel, then the characteristics of e-commerce web sites evolved as significant issues which participate in establishing e-customers’ trust in online environments and encourage them to proceed with their online transactions. This important issue is not successfully addressed in the literature of the e-commerce field. Thus there is a need to investigate the characteristics of trusted e-commerce web sites from a user’s point of view. The remainder of this paper is organized as follows: section 2 presents literature review of the characteristics of trusted e-commerce web sites, section 3 illustrated the research methodology, section 4 presents the data collection procedure, section 5 presents the reliability of the instrument, section 6 shows the data analysis of the study, section 7 discusses the results of the study, and section 8 summarizes the conclusion and the future work.

2 Literature Review

Internet commerce may be defined as the process of buying, selling, transferring, or exchanging products and/or services via the internet using a web site. In this environment, the interaction between online customers and digital companies is done via the companies’ web sites. Consequently, online users’ first impression about the digital company is formulated from its web site. Thus, it is expected that the characteristics of e-commerce web site affect online customers’ decisions towards their online business transactions [10]. To study the characteristics of e-commerce web sites that formulate a trust behaviour for online customers, many researchers investigated the effect of the design features on online customers’ trust and behavior towards web commerce. As an example, Egger [6] explained how the user interface of electronic commerce systems can increase the trustworthiness of an e-commerce web site. Additionally, Egger and Groot [7] discussed the effect of web site usability on online customers’ trust. Furthermore, Kim and Moon [11] investigated how the graphic design factors of a web site affect the users trust. Furthermore, Nilashi [12] showed that security and familiarity of web sites influence customers trust towards their online transactions. Aldiri et al. [1] studied how to increase e-customers' trust through the use of images and videos on e-commerce web sites. Victor and Chenyan [3] developed an integrated model by examining how perceived ease-of-use and perceived usefulness, perceived enjoyment influenced consumers’ intention in the context of online shopping. Al-Dwairi and Kamala [2] investigated online shoppers and showed the how the quality of e-commerce web sites positively affected online trust to place online transactions. Rababah and Fawaz [16] examined the effect of many web site factors like usability and reliability on its quality. Cho and Kim [8] proved that the importance of strong visual aesthetics of web sites and transaction security affected customers’ purchasing intention.
The Technology Acceptance Model (TAM) [4] [5] was widely used to measure user’s acceptance of information technology. Since an e-commerce web site is considered as an information technology over the web [9], online customers must actively engage in a technology use by interacting with e-commerce web sites and the Internet. For this, TAM could be used to describe online customers’ acceptance of this technology by placing online transactions [9] [10] [14] [15]. This model has been emerging in this field as a reliable and a robust model. However, in the domain of web shopping this model needs more factors beyond its salient factors (ease-of-use and usefulness). Adding new factors to the TAM may enhance this model to capture online customers’ acceptance of e-commerce.

3 Methodology

To achieve the objective of this study, a quantitative research method in the form of a survey was used to collect the required data from a sample of e-customers from different nationalities and origins by using a questionnaire which was developed for this purpose. The majority of the questions rate respondents on a Likert scale of 5-1 with end points of “strongly agree” and ”strongly disagree” respectively.

4 Data Collection Procedure

In this study, 419 questionnaires were distributed into customers of different ages, genders, and educational levels. Out of the 419 distributed questionnaires, 261 questionnaires were returned back. After checking the returned questionnaire, the researcher rejected one questionnaire as it is not filled correctly. Thus 260 questionnaires were used in this study.

5 Instrument Reliability

Cronbach’s alpha is a commonly used test for internal reliability. Thus, the researcher used the same test to measure the reliability of the used instrument; (SPSS) was used for this computation. The value of Cronbach’s alpha for the items in this study was 71.4%. Since the value of Cronbach’s alpha is greater than 0.70, the items in the study can be used for analysis with acceptable reliability [13].
6 Data Analysis

In order to conduct online transactions, customers should reveal their personal and financial information to e-commerce web sites. Therefore, the security and privacy features of the web sites are considered as important factors. Results showed that 72.6% of respondents are reluctant to reveal their sensitive information to the e-commerce web site. In addition to this, 63.4% of respondents believe that the endorsement of e-commerce web sites with a security seal would positively affect their trust to conduct online transactions. In addition to this, 72% of respondents recommend that digital companies should use strong cryptography protocols to protect their information during the transformation process and in web servers. Furthermore, 77% of respondents pointed that the trusted e-commerce web site should provide a mechanism to create a personal account for them to make sure that their credentials are saved securely.

From these findings the researcher can infer that security and privacy features are two significant factors for customers to trust an e-commerce web site. In section 2, the researcher pointed that TAM can be used to explain the behaviour of online customers towards their online transactions. For this, the study concentrates on the technology factors of e-commerce web sites. The study shows that 65.3% of respondents think that easy and good design of web site would positively affect them to place an online transaction using the web site. With regard to e-commerce web sites design features like attraction and using multimedia features in e-commerce web sites, the study shows that using such features would not affect e-customers’ decision towards their online transactions. However, 71% of respondents recommend that the e-commerce web site should include some tools that enable them to make a type of interaction with the digital company. This can be done by providing the web site with a chat tool or an e-mail tool. This mechanism can alleviate their concerns regarding their online transactions and the risk that might arise from the digital company. Based on these results, the researcher can suggest that e-commerce web sites should include some tools that enable online users effectively communicate the digital companies to exchange information and enhance the possibilities of building a trust relationship with online customers. Based on these results, the researcher suggests that e-commerce web sites should be designed well in order to be trusted.

In addition to its design, an e-commerce web site should include a timely and complete and accurate information about products, services, policies, procedures of the digital companies. The results of the study shows that 77% of respondents believe that the complete and accurate information about products, policies, and the digital company in e-commerce web sites will positively help them to conduct their online transactions with these companies. Based on the previous results, the researcher infer that security, privacy, design, and content are significant factors for e-commerce web sites in order
E-commerce web sites trust factors

7 Discussion

The results of the study clearly show that e-commerce web sites should have some characteristics in order to be trusted by the online customers. These factors will positively affect e-customers acceptance of the internet commerce and consequently this behavior can be transformed into sound decisions towards the online transactions.

The results of the study show that security and privacy features are important factors of the trusted e-commerce web sites. In addition, e-commerce web site design can play a big role in persuading e-customers to conduct their online business transactions with digital companies. These findings are partially consistent with the findings of [17]. Furthermore, results of this study showed that complete information is found to have a significant influence on shaping trust behavior towards these web sites. Also, the accuracy and complete information about items, prices, and the company policy should work together to provide e-customers with useful information and may positively affect them to trust the concerned web site. In addition, offering some communication options within e-commerce web sites offer the opportunity to link e-customers with e-vendors directly. This could alleviate their concerns by enabling them to make direct interactions with digital companies and to get answers for their queries and make sure that they are communicating using a legitimate web site.

E-commerce web sites trust factors model

Security
Privacy
Design
Content

Intention to trust an e-commerce Web site

Finally, results showed that 88.9% of respondents agreed that if they trusted a particular e-commerce web site, then they have an intention to proceed with their online transactions using that web site. This elevated the role of e-commerce web site in establishing e-customers’ trust towards online transactions and showed that the online customers accept this technology.
Hence, the researcher can suggest a model for the factors of trusted e-commerce web sites.

8 Conclusion and future work

These results of this study elevated the role of security, privacy, design and content of e-commerce web sites in affecting e-customers trust to shape sound decisions toward their online transactions. Based on these findings, we argued that these web sites that pose such characteristics will be considered as trusted web sites from e-customers’ point of view. Although TAM was widely used in predicting users' acceptance of a technology; the suggested model includes additional factors beyond the PEOU and PU to successfully represent e-customer’s behaviour to accept the e-commerce technology and make sound decisions. Therefore, this study added new important constructs for the enhancement of TAM's power towards the prediction of e-customers’ acceptance of e-commerce technology and relate it to their trust to proceed with their online transactions. For our future research, a model based on this study could be implemented using a fuzzy logic approach and study the effect of e-customers’ demographic factors like gender, age and culture in accepting e-commerce technology.

References


