CHAPTER 7 - DISCUSSION AND CONCLUSION

7.1 Background

This chapter is divided into two main parts. The first part provides a discussion of the research results presented in the previous chapter. Within the discussion the researcher will present: (a) a construction of a new e-commerce trust model, and (b) a new web-design guideline to develop a trusted e-commerce website. The second part of this chapter attempts to conclude the overall research and provides suggestions for future research.

7.2 Discussion

The literature review on trust in e-commerce presented in chapter 2 identified four main important factors pertaining to Internet users’ trust in online transaction. They are discussed as follows:

- Security factor to trust shop online
- Privacy factor to trust in e-commerce transaction
- Familiarity factors to trust in e-commerce transaction
- Information content factor in e-commerce trust website

The following discussion will cover the dominant elements of each trust factor.

7.2.1 Security

Security has been determined as an important role in trust building in electronic commerce and main concern to online customers (Yuan, 2005). This is the principal issue
concerning e-commerce for both buyers and sellers (Dave et al., 2000). Security has become a main issue influencing the purchase of products on the Web (Salisbury et al., 2001). Security of the information is the fundamental of Trust since e-commerce interaction involves exchanges of information virtually (Whelan and Maxelon, 2001). In e-commerce transactions, Internet users are constantly sending confidential information to clients and vendors over the Internet. There is the fear that as the information travels over cyberspace, it might be intercepted by hackers and used to perpetrate fraud. Many people feel the Internet is not secure because it is a public network. A widely cited issue (OECD 2000) with online systems these days is security. Security threats exist for both the e-Internet user and e-business. These threats involve stolen transaction information and misuse of personal Information. There are two major security threats to e-commerce. They are transaction security and storage security. Research by Mohini (2002) indicated that security of online information was the most important factor affecting decisions to shop online.

A few questions representing the element about security were asked to the respondents of the study. The elements asked were confidentiality of information, return policy, online payment, virus transmission and role of official body. Majority of the respondents agreed with all elements of security asked to them. They admitted the importance of the elements in trust building in e-commerce transaction. All the respondents responded highly positively and consistently to this particular element in the survey and interview conducted.
However, a return policy clearly stated on the website has been identified by the researcher as a dominant element to the Internet user to trust a certain website. 69.4 percent of the respondents considered the element of return policy in e-commerce website as significant and a core element to security as a trust factor in e-commerce applications. Male ISPs were more concerned about the importance of clear return policy stated in the e-commerce website for trust building as compared to female ISPs. In terms of the qualification of respondents, the importance of return policy seemed to be taken seriously by respondents with Master’s qualification which is 75 percent of the group compared to the other qualification group. The finding shows that male respondents felt insecure in buying products or services online than female. The data also revealed that level of qualification determines the concerns about the importance of return policy. It was proven by the correlation analysis which is 0.751. The group with higher education level treated the return policy element as more important compared to the other groups with lower education levels.

This result is consistent with the research by eBusiness Connection (2003) which found that 17.0 percent of online shoppers indicated that their return experiences at a specific online shopping site negatively impacted the likelihood of them shopping at those company’s stores again. Shopping online exposed the buyer to uncertain quality because they could not view the product physically. The consumer also faces the risk to accept a wrong product shipped, received only part of an order and product arriving too late. If the website provides a clear return policy, the consumers can return the products if they do not meet their expectation. The Internet users or online consumers consider timely
service, clearly stated goods return/refunds and privacy policies as important Internet shopping features (Zhuojun and Jairo, 2003). The importance of return policy is also stressed by Kim and Benbasat (2003), that statement about return and cancellation policies may help consumers to make ordering decisions with higher confidence and this would prevent lack of trust.

7.2.2 Privacy

Online privacy concerns with information sent and received during/after electronic transaction. Privacy and trust in e-commerce have a close relationship. This point was stressed by Teltzrow and Kobsa, (2004) and Briggs et al., (2004) stated that “Trust and privacy are inter-related constructs - the more we trust, the more information we are prepared to reveal about ourselves.” Internet users have major concerns about the threat to their privacy (Cranor et al., 2003) and many are anxious about the information provided online (Painea et al., 2007). Data revealed privacy is an important factor for consumers to trust online transactions. People all over the world are increasingly concerned about privacy issues surrounding the personal information collected by governments, private organisations and employers. Privacy concerns and fear of insecure transactions have been argued to be the biggest inhibitor to shopping online (Wang et al., 1998). Privacy relates to issues surrounding collection, secure transmission, storage, authorized access, usage and disclosure of personal information (Vidya, 2003). The research found that from the four main questions about privacy, respondents were concerned with how their personal information is collected and used through online transactions. They also refused to shop online if their personal information is abused by
the Internet merchant. They did not want their personal information to be sold to other people and bothered by unsolicited/junk email later on. All respondents disliked third parties interrupting their messages either during or after the online transactions. This result aligns to the finding of Meinert et al., (2006) that in order to gain consumer trust, web merchants must convince potential consumers that personal information obtained through e-commerce transactions will remain secure.

The research found that respondents treated the element of unsolicited/junk email as a dominant element to support privacy as a trust factor. It was proven with a mean value of 1.9 from the given full mean values of 5.0, 1.0 being strongly agrees and 5.0 strongly disagree. A comparison among the different groups of ISP, Information System Officers, showed they were more concern with unsolicited/junk email. About 90 percent of the ISPs within the group strongly agreed and agreed that unsolicited junk email disturbed their privacy. When analysed based on level of education, 90 percent of the respondents with Master’s level of education considered unsolicited/junk email as a threat to their privacy.

The result demonstrated that ISPs with higher levels of education and position determined the concerns the importance of privacy as a trust factor in e-commerce.

7.2.3 Familiarity

One of the research questions of this study is to reconfirm the role of familiarity elements as factors that make people trust e-commerce transactions.
Well-known websites are usually able to make people trust them. The research found that well-known websites cause familiarity among people and thus it is easier for them to trust online transactions. Familiarity is a dominant trust factor indicated by a mean value of 1.8182 of 5 (see Table 4.27). The finding of the research showed that if more hours were spent on internet surfing, more trust is gained by the e-commerce website users. 92.3 percent of the respondents within the group surfed the internet six to seven hour in well known websites compared to others. Further analysis found that 94.5 percent of male respondents stated that well-known websites was important to them to trust the website. Whereas for female, it is 74.2 percent stated that well-known websites are important for trust building. This scenario is similar to the research result of Yu-Hui and Barnes (2007) that found that familiarity with online purchasing have a positive impact on purchase intentions.

Well-known merchants also seemed important for people to comfortably interact online because in an environment where many people are still unfamiliar and cautious about a merchant, a well-known name can do a great deal to reassure and provide them what to expect from the site. In addition, facilities of products or services provided online by the merchant such as free email make people feel familiar and comfortable with the merchant. It will contribute to people’s trust in the information displayed by the merchant because there is previous interaction between the merchant and consumer, regardless of whether the interaction occurred offline or online. In identifying familiarity as a trust factor in online transactions, other people’s experience cannot be denied as an enabler to
influence users’ perception. Positive and negative experiences of certain people can affect other people around them. This is the same trust in traditional commerce transaction. In an e-commerce transaction, people’s trust in the online transaction is formed by other people’s experience.

The overall results demonstrated that familiarity is an important factor that contributes to trust in online transactions. Familiarity with online makes people feel convenient and secure.

7.2.4 Information Content in E-Commerce Trust Website

Conducting business transaction online does not determine the success of e-commerce websites in gaining competitive advantage. It depends on how frequently people visit a website and find information. People are confident to purchase products when they feel convenient and would visit the website repeatedly. This research has tried to find out the role of content from the web design’s perspective that made people trust online transactions. This is important in order to provide a guideline for Information System designer. Two tests were conducted to verify the elements of website that would make people trust a website. The first test was performed through a survey and the second test through interviews to verify the elements asked in the survey. Questions about information content were asked to the respondents twice during the survey and interview of the website experiment.
The results of the survey demonstrated that the respondents were concerned with certain elements of the website that could make them trust certain websites to perform an e-commerce transaction. The most dominant element indicated by the respondents in trust building of a certain e-commerce website is the login password, with a means value of 1.8 of 5. When commerce websites display the element on the interface, users will feel that the website is secure because it is only available for authorised persons. The survey also found that respondents treated the element of video as less important in contributing to trust building in an e-commerce website. The finding shows a mean value for the video element of 2.9 out of 5.0. Video is indicated as important for certain products and services (see Table 7.1).

**Table 7.1 - Elements of the website**

<table>
<thead>
<tr>
<th>Element</th>
<th>Mean</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The e-commerce website provides a clearly stated return policy</td>
<td>2.1653</td>
<td>0.80981</td>
</tr>
<tr>
<td>The e-commerce website provides video element.</td>
<td>2.9835</td>
<td>0.77442</td>
</tr>
</tbody>
</table>

There are 20 elements of the website that was asked to the respondents during the interview procedure. All elements were identified as able to make internet users trust e-commerce transactions, except for the audio element. The important elements of trust in an e-commerce website are as follows:

- **Information Accessibility** – Information provided in the prototype website should be easy to retrieve and fulfilled user’s information needs. The points were stressed by respondents 5 and 12 as below :

  Respondent 5: The respondents said that e-commerce website provided easy access to information. It enables the user to get the information and
make them confident to carry out online transactions.

Respondent 12: The respondent said that information in the e-commerce website is easy to retrieve and enables the user to receive information easily.

- **Sufficient information** – Information provided by the prototype website should be able to educate users to avoid misunderstanding. It also facilitates users to make comparisons with other websites and make the right selection. The point was emphasized clearly by respondents 1, 9 and 11, as follows:

  Respondent 1: “If the e-commerce websites provided correct and sufficient information about products and services, can make users to trust the e-commerce transaction. Sufficient information is very important to make sure they are educated and to avoid misunderstanding about product and service.”

  Respondent 9: “The website provided correct and sufficient, information about products and services and it is important for user to trust. The user can verify the information because they can make comparisons with other websites.”

  Respondent 11: “The information in the website should be correct and
sufficient to meet users’ need and to satisfy users’ want. I found that there was correct information have helped me to select the best product or services.”

- **Brand name** – The research found that brand names used in the prototype website can contribute to trust building because users know the brand and are aware that the company exists. The point was stressed by respondents 1, 4, 5 and 6, as shown below.

  Respondent 1: “The Merchant’s brand name clearly stated able to makes users secure to trust the e-commerce transaction. I felt secure when I see Giant name on the website. I would only use the site if the brand name is convincing.”

  Respondent 4: “The Giant brand is easy to trust due to reputation and reliability.”

  Respondent 5: “I gained confident when I found brand name of Giant is placed on the website. A well known company like Giant can attract users to buy a product or service because they know that the company really exists.”
Respondent 6: “Merchant’s brand name clearly stated to make people secure to trust the e-commerce transaction. People are confident with known company and will make people trust and secure.”

- **Communication** – Communication element applied in the e-commerce prototype website is very important to serve enquiries in cases of disputes. It also proved the sincerity and existence of the merchant. Furthermore, the users will have the convenience since space is provided for communication. The point was emphasized significantly by respondents 1, 2, 5, and 10, as shown below.

Respondent 1: “E-commerce website enables two-way communications between customer and merchant. I did feel secure to trust the e-commerce transaction. Online users are always seeking two-way communication to serve their enquiries.”

Respondent 2: “E-commerce website enables two-way communication between customer and merchant able to make them feel secure to trust the e-commerce transaction. It is because the e-commerce website gives immediate, update and responsive to customer.”

Respondent 5: “I trust the website because it provides room for two-way communication. The users who gain good feedback from the merchant feel more secure and trust the services given and shows that they are
merchant that exist and they can be trusted.”

Respondent 10: “I feel satisfied when I can communicate with the merchant. This is because the merchant provides a link and contact details to the user such e-mail, phone number, and postal addresses and so on.”

• **Security policy** – The respondents found the security policy stated in the e-commerce prototype useful for the Internet users to overcome their fear since shopping online exposed users to the risks of violations of privacy. This was mentioned clearly by respondents 1, 12, 13, and 14.

  Respondent 1: “E-Commerce website provides clear security policy enabling them to feel secure to trust the e-commerce transaction. I like to say, a clear policy must always be available.”

  Respondent 12: “There is a security policy stated by the merchant. The user is able to see the security policy. The security policy is to ensure all the information about the user is secured, and password is needed to access the information.”

  Respondent 13: “Security policy provided is very detailed and explains to the user that every transaction is protected and user need to log in to purchase any products or services.”
Respondent 14: “the website has security policy to make sure all customers are secured from hackers and fraud during shopping online.”

- **Privacy policy** – All the respondents were concerned with the privacy of the information they had given to the online merchant. Since the prototype e-commerce website provided a clear privacy policy, the respondents were confident that the website would not mishandle the information. This point was clearly stated by the respondents 12, 13 and 14.

Respondent 12: “There is a security policy stated by the merchant. The user is able to see the security policy. The security policy is to ensure all the information about the user is secured, and provide password to access the information.”

Respondent 13: “The security policy provided is very detail which explain to the user that every transaction is protected and user need to log in to purchase any products or services.”

Respondent 14: “The website has security policy to make sure all customers are secured from hackers and fraud during shopping online.”

- **Logon password** – This is an element closely related to security and privacy element. The respondents perceived the website is secure and protected because
only authorised users could access the website. This ensured that they would be dealing with only the right persons. The points were emphasized by respondents 1, 2 and 13, as shown below.

Respondent 1: “Logon password makes them trust e-commerce transaction. Password is a must and it will be perceived that security of the website is guaranteed.”

Respondent 2: “Logon password makes them trust e-commerce transaction. It is because it provides a common secure access method.”

Respondent 13: “Logon and password are required when purchasing product online. Users who are not registered will not be able to purchase product online. It’s good for security and privacy.”

The results of the survey and interview conducted guided the researcher to construct a guideline for an e-commerce trust website and a framework for trust in e-commerce from the ISP’s perspective. The guideline and framework constructed by the researcher can be viewed in the following section.

7.3 Construction of a Trust Website Guideline (TWG)

The findings of both the survey and interview about the prototype website provided the researcher with input for a guideline to design a website known as the Trust Website
Guideline (TWG). In the proposed guideline, a few elements are stressed and should be considered by Information System Designers as important elements that would help make people have confidence in e-commerce websites. The elements are summarised in the following table:

<table>
<thead>
<tr>
<th>Table 7.2 Trust Website Guideline (TWG)</th>
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</thead>
<tbody>
<tr>
<td><strong>Element</strong></td>
</tr>
</tbody>
</table>
| Accessibility              | - The information is suitable and sufficient to the user  
                              - Convenient                                      |
| Information search facility | - Search (as a tool for consumers to find information they need on the spot)  
                              - Provides freedom of information  
                              - Saves time of users.                           |
| Graphics                  | - To facilitate user’s understanding in the content of the website and avoid using confusing graphics. |
| Links                     | - The website should link to other websites in order to allow users to find more information about products and services for comparison. |
| Sufficient information     | - To make users educated and avoid misunderstandings about products and services. |
| Navigation                | - Structure of the information must be understandable and intuitive. |
| Communication             | - Allow users to give feedback and facilitate communication. |
| Return policy             | - State clearly to assist users if any disputes happened |
| Password                  | - Not all visitors can perform the transaction unless registered and have a password. |
| Security policy           | - State clearly the security measurements applied to reduce users’ fear. |
| Brand name                | - Place brand name clearly on every web page to make users recognize and help build up their confidence. |
| Merchant detail           | - Users have to know who the seller is before they buy something because trust comes from knowledge of who the seller is. |
| Advertising               | - Display useful advertising to assist consumers to find good prices and perform comparisons. |
| Personalization           | - Provide consumers with information they might be interested to know.  
                              - Avoid information overload.                        |
| Animation                 | - To support other media convey messages  
                              - Make people entertained and want to stay on at the website. |
| Privacy policy            | - Understandable to ensure users personal information will not go to third parties. |
| Updates                   | - Information must be updated frequently so people will be kept abreast with whatever new information that is available in online transactions |
| Video                     | - Provide suitable video for certain products with intention to influence and attract users to the products. |
| Trust seal                | - Provide a sign to create consumers’ confidence when they visit the website for the first time.  
                              - To avoid curiosity among users.                  |
TWG is a reliable guideline developed through empirical study. It should give valuable assistance to Information System Designers and Web Designers in order to build a trusted e-commerce website. TWG is established with the purpose of achieving research objective number two.

7.4 Construction of a New E-Commerce Trust Model

Lack of trust was identified in chapter two as the reason for the slow development of e-commerce application. Malaysia is also not exempt from this problem. Researchers in the field of Information System have conducted a lot of research and proposed trust models to solve the problem of trust in e-commerce. However, most of the trust models were constructed according to their respective environment and surrounding. Since Malaysia is a developing country and Malaysian usage of Internet is quite recent compared to developed countries, the trust models produced by other researchers in developed countries may not be applicable in Malaysia. Therefore, there is a need to have a specific model as a guideline to Malaysian Information System practitioners to solve the problem of lack of trust among internet users. This could help them to design a reliable system for e-commerce application according to the Malaysian needs.

The present study has guided the researcher to construct an E-Commerce Trust Model (ETM). The method of ETM is constructed through empirical study via survey and website experimentations. ETM outlines that trust in e-commerce must appear to overcome people’s concerns with factors such as familiarity, privacy, security and
website information element, and this can be viewed in Figure 7.1. All factors were divided according to a few stages, as illustrated below.

![Figure 7.1 - E-Commerce Trust Model (ETM)](image-url)
Stage 1 - Familiarity
The familiarity element looks at users’ exposure to e-commerce technologies especially of the Internet. This element examines the level and purpose of e-commerce application by users, using technology and the Internet, awareness of what is available on the Internet, and online experience.

Stage 2 - Privacy
The privacy element stresses users’ belief in e-commerce applications to guarantee their personal information is protected from third parties during online transactions.

Stage 3 - Security
The security factor emphasizes the technology and legislation role as a tool to create a secure environment for users’ to perform online transactions. The elements of security are: overall security guaranteed, confident with virtual space and clear return policy.

Stage 4 – Web Design
Web design element looks into the website elements to increase the user’s trust in online transactions.

In chapter 2, we have provided a description and comparison of three models by Cheskin (2000), Egger (2003) and Jarvenpaa and Tractinsky (1999). The comparison has assisted the researcher to produce a research framework to derive ETM at the end of research. The
ETM shares some differences and similarities to the three models. The ETM was produced in the Malaysian environment unlike the other three models which were produced in developed countries like the United States of America and Holland. The ETM covers the role of information extensively in e-commerce website design for promoting trust in e-commerce transactions. A special prototype was developed in order to know the respondents’ perceptions and opinions of the role of information in e-commerce website designs in creating trust among Internet users. In contrast, the three models paid scarce attention to information and no prototype has been developed so far. The ETM was produced by the researcher through the data collected from the sample of ISP. The three models were produced using the general public and students as research samples for the data collection. In terms of similarities, the ETM and the three models stressed that security, privacy and familiarity are important to trust building in e-commerce transactions.

7.5 Contribution of this research

The contribution of this research is it increases and enriches the literature in the area of Information System. This research has been cited as reference by the Master Thesis of Malaysia students.

This research has also contributed to the national interest since the government in the ninth Malaysia Plan intends to encourage people to use ICT in their daily life. The e-Commerce Trust model produced by this research provides suggestions to enhance the e-commerce application among Malaysians. The government can use the suggestions made
to formulate suitable policies and regulations according to society’s requirement. Reliable policies and regulations are important in order to boost the e-commerce application in the Malaysian Society.

The trust e-commerce website guideline produced by this research is a contribution to the Information System practices. It can be used by the Information System Designer in Malaysia to develop websites that are able to gain users’ trust.

7.6 Limitation of the research

This research has made some bold conclusions and it is hoped that they will be of value to Information System Designers and researchers. However, there are some aspects of this study that can be criticised and hence, may reduce the weight and value of this work. It must be stated, as in chapter 3, that a convenience sample is not valuable to research as an ideal sample. However, in a study like this one, with limited time, a convenience sample quickly provides participants. In any case, in a rapidly developing field like e-commerce, the use of convenience sampling was not considered damaging, because it is not yet known who the potential users would be. Indeed, everyone to a computer is theoretically a potential user to e-commerce application.

7.7 Future Research

This research has provided some interesting results and it is hoped that the thesis will be of genuine value to Information System Designers and researchers. This research has much studied the findings of previous research performed by experts in e-commerce.
Several claims have been made in this research and the next step should ideally be to repeat the experiments with a larger non-convenience participant sample. This work should enable the ETM model to be further refined and ideally the model should then be critically analysed by independent researchers.

Much more investigation and analysis are required before the ideal Malaysian trust model could be delivered in order to determine the successful development of e-commerce in Malaysia, but it is hoped that the ETM model is an initial step along this path.

7.8 Conclusion
In conclusion, this study has identified four trust factors that would contribute toward Malaysian Internet users’ trust in e-commerce transactions. These factors are familiarity, privacy, security and web design. Familiarity is the first and potentially the most significant factor, which Information System Designer has little power to influence because it relates to the skills in using the Internet. It really depends on people’s exposure to the internet. Privacy is the next factor that should be addressed and a good privacy statement accompanied with reliable technology has been concluded to be the factor most likely to inspire trust. Apart of this, the research also found security to be the third factor that caused people to trust an e-commerce application. It is important to apply reliable security technology and security sign on the website screen such as a trust seal and phrases that encourage feelings of security, particularly on the payment screen. Lastly, the research encountered the role of web design as a trust factor. Elements of the website used by the Information System designer when designing the web site should be aligned
with the people’s feeling to make them feel ease and confident when viewing the particular website.

This research was constructed with the objectives mentioned in chapter 1, as follows:

**Objective 1**

To identify the key factors that make people trust e-commerce interaction

**Objective 2**

To examine elements of information on e-commerce website that are able to promote initial trust in Internet users

These objectives were attained and assessed by reviewing the types of knowledge produced in this research. Besides that, this research has managed to provide knowledge based on the research finding related to the area of e-commerce and Information System generally. This research has provided and confirmed factors that cause people to have trust in e-commerce.