# Chapter 1 - Introduction

In the business community today, it is widely believed that the 21st century will see a new frontier in conducting business – a business environment that will be focused on providing convenience at the customers' fingertips, responsive to the customers' changing needs and enhancing the business processes and communications between critical communities. It is expected that Electronic Commerce (e-commerce) strategies will be the cornerstone elements in the business world in the next millennium.

E-commerce is what you get when you link the critical communities in a business, namely customers, employees, vendors and suppliers together with an electronic business process. In short, all business transactions and correspondences between the communities are carried out electronically. Although conducting e-business may sound like a major transformation, the medium to long-term benefits to the business far outweighs the cost.

E-commerce initiatives via the Internet have enormous potential to transform businesses into a much, bigger success by providing access to the global market and reducing the cost of doing business. For smaller businesses, it provides a level playing field with the larger competitors by providing worldwide exposure for their products without requiring large sales and marketing team. It would not be far fetched to consider that smaller companies with a better product and offering better customer service could provide a strong challenge to their larger counterparts.

## 1.1   Consumer Confidence in E-Commerce

One important aspect (or even the most important aspect), that may determine the success of on-line trading is the consumers' willingness to do business on line.  A retailer may have the best e-commerce solution or the most advanced security or encryption algorithm, but at the end of the day if consumers are not willing to do business on-line, than e-commerce shall be a failure.

In the past years, we had the Internet that was used for gathering information and communicating. Today, Internet is taking an additional role - ease business procedures and enable purchasing of the net. Consumers are in the midst of making major purchasing decisions on the Web without actually knowing or having heard of the companies they are buying from. In the traditional way of doing business, consumers have the advantage to actually touch and feel the products before paying. With e-commerce, it is different. Consumers pay first and wait for the products to be delivered to them. As a result, many questions arise among consumers. Some main questions/concerns are (as described in The Second Ernst & Young Internet Shopping Study):

- Is it save to send the credit card number (or any other personal particulars like passport number or account number etc.) over the net?
- Is the firm that I am dealing with reliable?
- It is too difficult to navigate through the site? It takes a long time to download some of the graphics.
- Is the price really cheap or is it just a catch?
- Is there any hidden cost which may occur upon placing an order?
- Am I eligible to buy?
- What do I do if the product is faulty?

The many advantages of buying on the net, like lower price and convenience, do not seem to match the amount of risk consumers think they face when they buy on-line. If this lack of confidence in conducting business on the Internet is not eliminated, the cross-border e-commerce plans shall never reach its full potential.

Today in a typical business environment, consumers can communicate with merchants and get a good feeling of the products or services that they want to buy before making the purchase decision. In most cases, consumers pay after receiving the product or service. They get money back guaranty for any faults in the product. Consumers are very used to this kind of business procedures.

Now we are asking them to change - Change to e-commerce 'The new way of doing business'. They fear they may loose some (or even all) of these benefits. Campaigns

and promotions may help, but it may not lead to a purchasing decision because there is no one to take responsibility if there were any issues.

There are three stages in creating consumers' confidence. The first stage is to find out what are the barriers of e-commerce from consumers' point of view and find suitable solutions for them. There are so many aspects that consumers should be satisfied about before they may even think of buying on-line. Some of the main aspects that consumers are worried about are:

- Security - the worry that consumers have about their money.
- Confidentiality - the worry that consumers have about their personal particulars.
- Credibility - the worry that consumers have about the potential of their dealers.
- Believability - the worry that consumers have about the truth of what they see on the web page
- Usability - the worry that consumers have about their understanding of a product based on the description provided.

Most of these issues are solvable, but how is it going to be relayed to consumers. A retailer may have the best e-commerce solution or the most advanced security or encryption algorithm, but at the end of the day if consumers are not informed about this, there is not going to be much success in e-commerce.

The relaying or transferring of information and details about the abilities of e-commerce is the second important stage in creating consumer confidence. The main interface between consumers and merchants is the Internet or, to be more specific, the Web page. It is up to the seller to ensure that his web page has all the necessary information that would create confidence among consumers.

The third stage of creating consumer confidence would be to establish a 'seal of confidence', which shall act as a tool to increase the credibility of web pages. This 'seal of confidence' or digital certificate shall be used as a mechanism to identify a firm as a 'serious to do on line business' firm. Consumers, as a reference point to differentiate a

firm that is serious about on-line business and a firm that is just interested in quick money, shall use this seal. The concept is, firms have to obtain this Digital Certificate in order to be certified as fit to do on-line business. Firms should not be forced to get the certificate, but the trend line here is obvious. Sites that lack the cyber seal will be at a marked competitive disadvantage to those that do.

The certification process could be done either by a non-profitable organization or a government body - where a neutral party consisting of private companies is most preferred.

## 1.2    Objective

The core objective of my thesis is to create a systematic approach to increase consumer confidence or change consumers' perception of conducting on-line business.

There is already ample work and research done on stage one, which is to identify the existing barriers/worries among consumers to do on-line business. Many firms are coming up with lots of new encryption methodology and security systems. Various researches have already been completed by KPMG and Ernst & Young to identify the possible barriers of e-commerce.

My main area of research would be covering the various aspects and possibilities of redesigning commercial web pages and ways to communicate this to the end users.

Finally a standard set of recommendations shall be provided, which shall be used as a guide to certify a firm as suitable to on-line business.

## 1.3    Purpose and Significance of the Study

Upon identifying the consumer requirements and expectations out of a web page, a standard procedure for web page design shall be recommended. This standard set of procedures could be used as a base by authorities to audit and digital approve web pages to do on-line business.

The whole idea is that, a merchant should follow these standards during web page designing in order to gain a certain 'seal of acceptance', a worldwide accepted standard certificate. The merchant shall have to continually comply with these recommended

standards in order to maintain the 'seal'. This seal shall be used as tool to create/increase consumer confidence about doing business on line.

Is there a need to standardize web page contents prior to digital approving it? In other words, would not it create consumer confidence if a site that does not have standard set of information, but has been digitally approved? The argument here is web sites that contain the digital approval shall have to contain sufficient information and quality in order to fulfill consumers' requirements and expectations. Failing to do so may cause consumers to loose faith on the digital approval. Thus there is a need to continuously maintain and audit the contents of web pages.

## 1.4    Research Idea

If a standard set of web page design practice were adopted by all Internet merchants, and the web pages were continually audited and approved, then there would be an increasing growth in consumer confidence leading to an accelerating growth in e-commerce.

## 1.5    Research Mechanism

The main mechanism of the study is to obtain input from consumers. For the purpose, a seven page questionnaire was prepared based on the following criterion:

**Section A** - This section collects some basic demographic details like sex, age, occupation and education of respondents. This section also contains questions that request respondents to select the preferred way of selecting a web page to do business. Respondents will also required to select the type of e-mail account they have. Respondents without an e-mail account shall be disqualified to participate in the survey.

**Section B** - This section contains 12 Category scaled questions pertaining various aspects that could possibly be displayed on commercial web pages. Each question contains variable number of sub-questions that breaks down the main criterion into more detailed items. In all, there are a total of 56 selections that respondents would have to make in this section. The Category scale used will be from 1 to 5 where 1 refers to 'least important' and 5 refers to 'most important'. The basic question format is "How important do you think this information about ...... being displayed on commercial web pages?"

Respondents are also allowed to mention one additional item that they feel is important, but has not been covered in the questionnaire.

**Section C** - This section asks some additional information about payment over the Internet and merchant responsiveness.  This section also gets input about respondents willingness to do business on-line.

The sample of the survey questionnaire has been attached in Appendix A.

The questionnaires shall be distributed via 'hard copies' and via e-mail.  A complementary gift shall be given to those who complete the survey.


## 1.6   Sampling Design

The questionnaires shall be distributed to consumers above 18 years old.  Eligible respondents are those with at least one e-mail account.  About 150 complete responses shall be required for the research.  The forms shall be distributed to consumers in the age group of 18 - 35 years, but however restrictions shall not be made on those who are older than that. Similarly, those with at least a college degree and are working at an executive level or higher shall be the preferred respondents.  Students shall also be considered as an important portion of possible e-commerce users.


## 1.7   Data Collection and Analysis

The questionnaires collected shall be edited to and filtered to remove uncompleted entries.  The edited questionnaires shall then be indexed starting from 1 and incremented systematically.  Next the answers for each questions shall be entered into a spread sheet application (SPSS) based on the code book attached in Appendix A.

Descriptive analysis shall be done on the various demographic details collected in section A.  Frequency tables for the respondents' demographic details and cross tabulations against willingness to buy shall be created.  The dependency of each variable against the willingness to buy on-line shall be tested using the chi-square test.

Special attention shall be given to 'web page selection criterion' and 'payment methodology'. Analysis shall be done to test if one of the methods is preferred as

compared to the others ways of selecting a web page for business and payment methodology.

The final analysis will be made on section B of the questionnaire, where the importance of each item as specified by the respondents shall be calculated. The mode shall be used as the measure of central tendency where as the percentile ranking of '4' shall be used as the measure of dispersion. Items that have a mode of 4 or above shall be considered as important and shall be included in the recommendation. The percentile ranking shall be used to rank the importance if two or more items have equal importance. Factor analysis shall be done to extract fewer number of factors from the list of variables.

## 1.8    Scope and Limitation of the Study

The scope of the study is to identify the important aspects of e-commerce from the consumers' point of view. The study shall basically cover the portion of web pagedesign as that is the front-end for consumer interaction. The back-end portions that cover major aspects like security, reliability etc. are not covered in this study as it is not directly visible by the consumers. For example, the study will not cover which among the available encryption protocols is the best; rather, it would recommend a mechanism on how to transfer the details about the encryption deployed to the consumers.

## 1.9    Organization of the Study

A survey shall be conducted among consumers. The survey shall contain questions on what consumers expect out of a web page and how important is it to them. Based on the results of the survey, the need (if any) for standardization of web page and digital approval shall be finalized.

The report shall contain a brief introduction (Chapter 1) followed by a review of past researches/studies and description of the various aspects of standardization in general (Chapter 2). Chapter 3 contains the demographic description of the respondents of the survey. Chapter 4 analyzes the important contents of web page as selected by consumers. Chapter 5 contains the recommendations that arise from the research. Finally, chapter 6 shall contain the conclusion and recommendation for future research.