Chapter XII

User Considerations in Electronic Commerce Transactions

Jonathan Lazar, Towson University, USA
A.F. Norcio, University of Maryland Baltimore County, USA

ABSTRACT
This chapter will provide a discussion of user considerations in electronic commerce transactions. A consumer in an electronic commerce transaction is essentially a user. There are a number of user considerations that must be addressed for an electronic commerce transaction task to be successful. This chapter will address the functionality and usability needs of a user in an electronic commerce transaction. Results of a study of over 150 users and the factors that influence their decision to purchase textbooks will be presented, analyzed, and discussed.

INTRODUCTION
The most important element of a business-to-consumer transaction in electronic commerce is the consumer. Businesses can place whatever site they choose on the Internet, but it is the consumer who chooses whether to purchase something and therefore, the consumer decides whether to make a transaction occur. For the consumer to make an electronic commerce transaction, the user must interact with the computer. Therefore, a consumer is just another name for a user, and the focus should be on designing an electronic commerce transaction around the needs of the user (Miles, Howes and Davies, 2000).

In a traditional information system in an organization or company, the user may need to access the system as part of their job. In fact, the user may be required to use the system. In electronic commerce, the opposite scenario is true. The user will only perform an electronic commerce transaction if they want to. No one is forcing the user to perform an electronic commerce transaction. In addition, there are many alternatives to using a specific electronic commerce site. Users can choose to purchase their products from traditional brick-and-mortar stores, as well as mail-order catalogs. There are many other e-commerce sites that sell similar products, and there are virtually no costs involved for a user to switch from one site to another (Nielsen and Norman, 2000). Therefore, the user interaction experience in electronic commerce must be a good one for an electronic commerce site to be successful, and for the transaction to actually take place.
Electronic commerce creates a number of new concerns. Electronic retailers must deal with issues of electronic payment, security, supply chain management and delivery. In dealing with all of these new concerns, frequently, the human interaction factors in the transaction are forgotten. The customer in an electronic commerce transaction is, in reality, a user. To purchase products from an electronic retailer, the customer/user must perform a set of computer tasks. The electronic commerce transaction cannot successfully be completed without the user. In this chapter, we will focus on the user factors in an electronic commerce transaction. Our discussion will address the human-computer interaction literature as it relates to the electronic commerce transaction. The electronic commerce transaction will be approached from the traditional human-computer interaction viewpoints of functionality and usability.

**FUNCTIONALITY**

One of the first considerations in an electronic commerce transaction is whether an e-commerce site has something interesting and valuable for the user. No one is going to go to an e-commerce site to purchase a case of cola for fifteen dollars when any food store in the country sells the same case of cola for four dollars. There are a number of reasons why a user might want to purchase something through an e-commerce site:

- The e-commerce site might offer a better selection of products than the brick-and-mortar store. It is possible that the e-commerce site might offer items of a higher quality than that the brick-and-mortar store, or offer products that the brick-and-mortar store simply does not offer (Turban, Lee, King and Chung, 2000).
- The e-commerce site might offer better pricing than a brick-and-mortar store. (Turban et al., 2000).
- The e-commerce site might offer better customer service than a brick-and-mortar store (Mossberg, 1999; Turban et al., 2000). For instance, the e-commerce store can be open 24 hours a day, which most brick-and-mortar stores are not.

Another functionality consideration is simply whether an e-commerce site can respond to a request from a consumer/user. Assuming that a user wants to purchase from a specific e-commerce site, and assuming that the e-commerce site is easy to use so that there are no usability problems, the transaction will take place, right? Not necessarily. There might be a number of technical problems that could keep the transaction from taking place. For instance, in a study done by Anderson Consulting during the 1999 Holiday season, over 25% of transactions could not take place due to server error (Reuters, 1999). Another study done by the Boston Consulting Group estimated that 28% of attempted transactions failed (Bonisteel, 2000). For some reason, the e-commerce server could not respond to the user request. It is quite possible that this was due to overwhelming transaction demand. A number of e-commerce sites simply could not keep up with the demand for transactions.

An interesting concern from the user point of view is what took place when the server could not respond to the user request. Did users receive an error message? If so, what type of error message did the users receive? In user interactions, novice users tend to blame themselves for errors, even if the errors were not due to the actions of the user (Lazar and Norcio, 1999; Lazar and Norcio, 2000b). In addition, error messages often are unclear and do not provide guidance to the user (Lazar and Norcio, 2000a). These error messages often increase the frustration level for the user. When the user attempted to complete an electronic commerce transaction, but the server was not able to respond, did the error messages clearly let the users know that e-commerce site was having technical problems, and that none of this
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