

Theory and Practice in Design of Electronic Commerce

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This paper reviews interface design of web pages for e-commerce. A customer makes several decisions: to enter the store, to navigate, to purchase, to pay, and to keep the merchandise. This artificial environment must be designed so that it can support customer decision-making. To retain customers it must be pleasing and fun, and create a task with natural flow. Customers have different Needs, Competence and Motivation, which affect decision-making. It may therefore be important to customise the design of the e-store environment. Future research should investigate perceptual aspects, such as presentation of merchandise, cognitive issues, such as product search and navigation, and decision making while considering various economic parameters. Five theories on e-commerce research are presented.

Introduction

The major problem in designing an e-commerce facility is that the versatility of the computerised medium. Products may be displayed in many new ways. There can be links organised by product, by brand, and by functionality. There can be written lists of products for sale, and there can be store environments set up as a virtual reality simulation of aisles, shelves and products. There can be product illustrations in colour and multimedia, and streaming video with consumer testing. There can be personalised stores, which utilise “cookies” to display items only of interest to the individual customers. In analogy with Herbert Simon’s concept “Sciences of the Artificial”, this is the “Marketplace of the Artificial” (Johnson, Lohse, & Mandel, 1999). These stores are symbolic and they are unconstrained by the physical prescriptions of a real store environment - anything is possible. This versatility makes it difficult to design the ideal store.

The second problem is that there are many forms for buying/selling including:

1. Fixed price, conventional e-stores with goods from one retailer.
2. Auction houses. Customer may bid on items, such as aeroplane tickets (e.g. www.priceline.com).
3. Infomediaries. These pool the merchandise from several manufacturers, for example, Chemdex (www.Chemdex.com).
4. Hybrid stores. NexTag (www.NexTag.com) is an auction house. It is also an infomediary with a supply chain consisting of other well-established e-stores.

It is uncertain which of these types of stores will prevail in the future. A standardised task and layout would simplify navigation and ease-of-use.