12-2003

Creating a virtual store image

P. KATERATTANAKUL

Keng SIAU
Singapore Management University, klsiau@smu.edu.sg

Creating A Virtual Store Image

Pairin Katerattanakul and Keng Siau

Image is an important variable in the functioning of human behavior [3] and the acceptance of this position in the field of marketing has been pervasive; marketers are concerned with the image customers have of products, company, and retail stores as points of customer contact [7]. With the popularity of e-commerce and the blossoming of online business, we need to understand the critical attributes of image for a virtual store. What is different between a physical and a virtual store? Are there any special considerations required for a virtual store? A study was conducted to answer these questions. This article presents the results of the study and discusses the practical implications.

Store image is described as the way in which the store is defined in customers' minds [9], and many studies [for example, 2, 6, 7] have been conducted over the past four decades to search for important attributes affecting store image formation. Similarly, for virtual stores on the Web, several studies [for example, 4, 5, 8] have attempted to identify the designs and features that are important in the virtual domain.

In this study, 77 designs and features for virtual stores recommended in previous studies were compiled into a list used to construct a survey. Four hundreds and twenty-seven potential customers were asked to rate the importance of each item on the list. The items that were rated as "not-so-important" were dropped from the list; thus, the information gathered identifies critical designs and features affecting virtual store image formation. The remaining items were then grouped by a Factor Analysis into six main dimensions. Within each dimension, the items that involve similar or related designs or features were combined. This procedure narrowed the critical attributes for virtual store image formation. The attributes were then mapped to the framework of a physical store image [7] as in Table 1.

Site and system facilities. Fast system response time is rated as the most important attribute. System response time affects Web customer satisfaction. Each Web page of a virtual store should be designed in such a way that its page-loading time, by typical Web users (for example, users with 56Kbps modem connection), does not take longer than 10 seconds.

Pairin Katerattanakul (pairin@wmich.edu) is an assistant professor of the CIS Program at Western Michigan University.
Keng Sau (ksiau@unl.edu) is an associate professor of MIS at the University of Nebraska-Lincoln.

Physical Store Image	Virtual Store Image
Physical facilities: ■ Facilities available ■ Store layout ■ Aisle placement and width ■ Carpeting ■ Architecture	*Site and System Facilities*: ■ Fast system response time ■ Secure transaction processing systems with user authentication features ■ System reliability ■ System flexibility ■ Trusted third parties or assurance services
Merchandise: ■ Quality ■ Selection or assortment ■ Styling or fashion ■ Guarantees ■ Pricing *Promotion*: ■ Sales promotions ■ Advertising ■ Displays ■ Trading stamps ■ Symbols and colors	*Product and Promotion Information*: ■ Product variety ■ Product price and picture ■ Product availability, and time required to deliver ■ Completed information of product features and comparisons ■ Special offers ■ Highlight of new products or most recent product changes ■ Easy to understand and accurate information
Service: ■ Service-general ■ Salesclerk service ■ Presence of self-service ■ Ease of merchandise return ■ Delivery service ■ Credit policies *Post-Transaction satisfaction*: ■ Merchandise in use ■ Return ■ Adjustment ■ Satisfaction with the purchase and with the store	*Transaction Service and Satisfaction*: ■ Product selection assistance ■ Virtual community ■ Transaction support ■ Easy to complete transactions with minimum information required ■ Payment selection ■ Contractual or transaction rules, policies, and disclaimers ■ Frequently Asked Questions, Online Services or Help, and Mechanisms to contact the company
Convenience: ■ Convenience-general ■ Location convenience ■ Parking	*Convenience*: ■ Details about the organization of site's contents ■ Location indicator ■ Navigational efficiency
Clientele: ■ Social class appeal ■ Self-image congruency ■ Store personnel *Store atmosphere*: ■ Customer's feeling of warmth, acceptance, or ease	*Appearance and Congeniality*: ■ Pleasant, non-confusing, and attractive graphic design and layout with adequate brightness ■ Well-organized and consistent page-layout with appropriate length ■ Attractive embedded photos or images
Institutional factors: ■ Conservative-modern projection of the store ■ Reputation and reliability	*Institutional factors*: ■ Requirements related to customer's personal information ■ Company's information

Table 1. Mapping of physical store image to virtual store image.

Customer perceptions of Web security significantly affect their intent to purchase [12]. Thus, customers indicate that it is very important for virtual stores to employ secure transaction processing systems, to provide user authentication features such as user IDs and passwords for proof of customer identity, and to inform the customers about the use of these systems. Additionally, trusted third parties or assurance services (for example, bank or credit card assurance) are important and should be included to certify virtual stores because their presence can provide additional likelihood of customer purchases [11].

Finally, reliability and flexibility of the systems are rated as very important attributes for virtual store image. The systems the virtual stores employ must ensure correct price calculations and correct transaction processing. Moreover, the systems should be flexible enough to allow customers to change their personal information or requirements (for example, credit card number, order quantity) anytime before submitting a transaction. Another asset that would add value to a virtual store is the ability to hold an incomplete transaction and submit the transaction at a later date, eliminating the need to re-enter information.

Product and promotion information. Quality and assortment of merchandise were found to be one of the most important components of department store image [2]; similarly, price and other product-related information are the relevant and crucial information that needs to be provided by virtual stores since customers want to obtain as much information as possible to support their purchasing decisions.

Customers will be deeply disappointed if Web sites offer less product information than do printed catalogs [5]. Customers insist that Web sites provide complete, detailed product information, current prices, and pictures of products because of the visual nature of the medium. The detailed product information should include product features, product comparisons to similar brands or models, availability of the product, and estimated delivery time.

Virtual stores may regularly (for example, daily, weekly) provide special offers for different products. These special offers are the compelling reason that customers revisit the virtual store and, by waiting and expecting special offers for particular products, customers can experience the added excitement and enjoyment from shopping in the virtual store. In addition, customers posit that new products and/or the most recent product changes should be highlighted. Finally, it is important for the virtual stores to be free of any grammatical, spelling, or typographical errors and the information provided must be unambiguous, accurate, and reliable.

Transaction service and satisfaction. Virtual stores may provide product selection assistance by allowing customers to submit their requirements and then suggesting the products that best meet these requirements. Virtual stores should also provide a collection of product-related questions and answers (for example, recommendations in selecting and/or purchasing various brands or models, and tips & tricks for using specific products) by creating a virtual community (for example, reviewer section, bulletin board) and allowing customers to ask questions and share the information with each other via this community. Furthermore, customers indicate that it is important for virtual stores to maintain their previous transaction information and allow them to access this information. Customers may want to review those previous transactions before making new transactions (for example, purchasing complementary items for the previously purchased items).

Online transactions usually consist of several steps; therefore, customers expect the virtual stores to provide assistance to guide them through these various steps, although seemingly simple. The transactions should require minimum customer information. To accomplish this, virtual stores may use pre-registered customer information to shorten the time needed to complete transactions. In addition, since customers may make errors in conducting online transactions, customers note that it is important for virtual store designers to anticipate that errors may occur and to provide clear explanations and instructions for resolving possible errors. Moreover, it is also important to provide customers the acknowledgement that the transactions were correctly received. Virtual store should also provide the information or a feature that allows customers to track or monitor the status of their transactions.

Payment selection is another important virtual store service rated by customers. Although credit cards are the major payment method for purchases over the Web, there are other electronic token-based payment systems such as digital cash (for example, DigiCash), check cards or electronic checks (for example, NetCheque), and smart cards or debit cards (for example, Mondex Electronic Currency Card); thus, virtual stores should consider allowing customers to select different payment methods, especially for smaller transactions.

Contractual statements and transaction regulations also affect customers' trust and satisfaction [10]. Customers insist that all contractual information or transaction regulations about policies related to returns, shipping charges, guarantees, and any disclaimers that the company will not honor some or all implied liabilities, be clearly and prominently stated in virtual stores.

Finally, customers often encounter the same problems or ask the same questions; thus, customers suggest that virtual stores keep track of these questions and provide easy-to-find answers in the form of frequently asked questions (FAQs). In the case that customers encounter particular questions that are not included in the FAQs, it is important that virtual stores provide online help or information about how to contact the company. These features reflect the value the company places on its customers through good customer support. Customers will shop elsewhere if they feel that they can get better support, services, and satisfaction.

Convenience. Details about organization of a virtual store's content helps customers find desired information. Customers posit that the content be organized (for example, in alphabetical order, by types of products) into various sections that seem most logical to customers. These details should be presented in the form of an overview page, a site map, or a table of contents, and so on. Another related problem is the lack of knowledge of where you are within the virtual store [8]; thus, customers indicate that it is important for each Web page of the virtual store to contain an indicator or a map about which section of the store that particular page belongs to.

"Navigation efficiency" is the ease with which customers can reach a certain location within the virtual store for particular information they want. It is important for customers to obtain desired information in the fewest possible steps and virtual stores must provide sufficient hyperlinks to allow customers to reach the desired information quickly and easily. Furthermore, if Web pages do not contain any hyperlinks, users will be locked out from the rest of the site. Thus, hyperlinks to home pages and to other main pages within the virtual store should be provided on each Web page. Although Web browser software may include features that allow users to browse backward and forward, using this serial browsing technique to reach the target pages

requires excessive browsing steps. Furthermore, customers insist that the hyperlinks be consistent since, once customers see the hyperlinks, they expect that, when they see those links again, the links will look the same, be in the same location, and function identically.

In addition to sufficient and consistent hyperlinks, customers rate that the accuracy of hyperlinks is essential. That is, hyperlinks must not be broken and hyperlinks should clearly represent the destinations indicated. Customers are frustrated by numerous broken or inactive hyperlinks [5] and they also criticize hyperlinks for being misleading [8].

Appearance and congeniality. Enjoyment is one of the fundamental aspects of shopping [1]. Customers note that the appearance of a virtual store can engender pleasure in their shopping. Virtual stores should employ pleasing graphics (such as, colors, background images or patterns, fonts, icons, and headings). These graphics should not look confusing and should be consistent on every page. Photos or images embedded in virtual store should be attractive and the layout should be well organized. Moreover, customers suggest that every page of virtual stores have adequate brightness and be of reasonable length so that it will not take too long to scroll from top to bottom.

In addition to the pleasing design that helps make shopping in virtual stores a pleasurable experience, virtual store design should be congruent with the image its customers have of themselves. Customers prefer an atmosphere of acceptance and will seek the virtual stores whose design is acceptable and appealing to them individually; unless the store design and atmosphere is acceptable to the customers, other factors (for example, price, promotion) are meaningless [2].

Institutional factors. The perceptions of little or limited control over information privacy on the Web have an influence on customers' willingness to engage in relationship exchanges online [4]. Customers worry about the use of their personal information and insist that it is important for virtual stores to inform customers about how the collected personal information will be used. Furthermore, if the company intends to use customers' personal information for any purposes (for example, mailing list) other than the original purpose (for example, shipping and billing), the company should first ask for permission for these secondary uses.

Additionally, customers are more likely to trust a company with a good reputation or a company that they know something about [10]. Thus, customers indicate that virtual stores, especially new companies, provide information about company background, announcements, or press releases to help establish credibility.

Managerial Implications

Web developers are accustomed to looking at virtual stores in a technically oriented way—in terms of which technical characteristics are employed. Certainly, if possible, developers should employ the most advanced technologies; but developers must not be so captivated by the technologies that they overlook the basis of shopping behavior and users' requirements. Technologies must be employed in order to serve users' requirements, to create a favorable shopping environment, and to lead customers to perceive a positive store image.

It is also well-recognized that user involvement in information systems development is very important since meeting user requirements is a necessary condition for the overall success of the systems. Virtual store developers must be aware that their

company is not the ultimate user of their virtual store, but realize that their customers are. Unfortunately, customers of virtual stores cannot be ordered to, or may have no particular interest in, becoming involved in the development process of the virtual stores, and thus a new paradigm for identifying customers' requirements is essential. Additionally, similar to physical stores, virtual store represents a direct contact between the company and its customers, and therefore provides an opportunity for creating or reinforcing the company's image. The image portraying the virtual store must be congruent with the existing image and, when designing a virtual store, developers must analyze the image of the company and of its physical stores, as held by their customers. Therefore, it is of interest to map the six dimensions of critical virtual store image attributes to the framework of a physical storefront attributes. This mapping helps virtual store developers intuitively transfer their understandings, knowledge, and experience in physical store design to virtual store design.

Conclusion
This study identifies the critical attributes affecting the image formation of virtual stores on the Web. For potential management applications, the study focuses upon the designs and features of virtual stores that are feasible to attain and revise. When these designs and features are measured as unfavorable, then managerial action needs to be taken to rectify these design and feature flaws. The important designs and features affecting virtual store image formation are categorized into six dimensions: Site/system facilities, product and promotion information, transaction service and satisfaction, convenience, appearance and congeniality, and institutional factors. These dimensions of critical attributes for virtual store image are then mapped to the framework of physical store image. This mapping helps management and developers better design the virtual store that will create or reinforce the overall company image.

References
1. Babin, B.J., Darden, W.R., and Griffin, M. Work and/or fun: Measuring hedonic and utilitarian shopping value. *Journal of Consumer Research,* 20, 4, (1994), 644–656.

2. Berry, L.L. The Components of Department Store Image: A Theoretical and empirical analysis. *Journal of Retailing,* 45 (Spring 1969), 3–20.

3. Boulding, K.E. *The Image.* The University of Michigan Press, , Ann Arbor, MI, 1956.

4. Hoffman, D.L., Novak, T.P., and Peralta, M. Building consumer trust in online environments: The case for information privacy. (Access date 8/5/99; www2000.ogsm.vanderbilt.edu).

5. Javenpaa, S.L. and Todd, P.A. Is there a future for retailing on the Internet? *Electronic Marketing and the Consumer.* Peterson (ed.). Sage, Thousand Oaks, CA. 1997, 139–154.

6. Keaveney, S.M. and Hunt, K.A. Conceptualization and operationalization of retail store image: A case of rival middle-level theories. *Journal of Academy of Marketing Science,* 20 (Spring 1992), 165–174.

7. Lindquist, J.D. Meaning of image: A survey of empirical and hypothetical evidence. *Journal of Retailing,* 50 (Winter), 1974, 29–38.

8. Lynch, P.J. and Horton, S. *Web Style Guide: Basic Design Principles for Creating Web Sites,* Yale University Press, 1999.

9. Martineau, P. The personality of the retail store. *Harvard Business Review* 36 (Jan–Feb 1958), 47.

10. Milne, G.R. and Boza, M. Trust and concern in consumers' perceptions of marketing information management practices. *MSI Working Paper,* Report No.98-117, Sept. 1998.

11. Siau, K., Shen, Z. Building Customer Trust in Mobile Commerce. *Commun. ACM* 46, 4 (Apr. 2003), 91–94.

12. Siau, K., Lim, E., Shen, Z. Mobile commerce—Promises, challenges, and research agenda. *Journal of Database Management* 12, 3, 2001, 4–13.