Opportunities to enhance a commercial website

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Abstract

This article describes a framework of analysis that categorizes features of website design in a matrix of business functions versus customer values. The framework supports a development plan for a commercial website that may involve all aspects of a transaction. It also includes examples of Web features that could be evaluated from the visitor or customer perspective. As customers might have a different view from the company, the framework chooses Web features that are directly related to customer values: those which may bring only strategic advantages to the company but are intangible to customers are deliberately ignored.

Keywords: e-marketing; e-transaction; e-services; Web attributes; Process-value matrix

1. Introduction

Donna L. Hoffman et al. [10] classify commercial websites into six distinct types: online storefront, Internet presence, content, mall, incentive site, and search agent. Compared to the other categories, sites intended only for Internet presence are usually designed with a less complex structure. Although many are composed with hyperlinks and webpages in multimedia, they are just company brochures being digitized, referred to as flat ads or flag showing in [10,18].

Many companies are interested only in an easy entry to the Internet. Many reports (e.g. [13]) have not been able to find sufficient evidence to prove that Web retailing can provide larger positive cash-flow than traditional business. These surveys suggested that Internet shopping is still in its infancy. The Tenth WWW User Survey [4] by the Graphic, Visualization, & Usability Center shows that 42% of the respondents make a purchase from a Web-based vendor less than once per month. A similar demographic survey by CommerceNet and Nielsen Media [2] revealed that there were only 18.2 million online shoppers in April 1999 compared to a 92 million Internet users population in North America.

The percentage of online shoppers only rises at a moderate rate; yet the multiplicative effect of the expanding population of Internet users might bring large revenues to Web business. The amazing success stories of Amazon.com [1] and Dell Computer [3] are recent evidence of the opportunities. Indeed Dell (http://www.dell.com) had a total of $19.9 billion revenue for the past four quarters, as reported on 16 July.

However, the advantages of Internet business are elusive. Just starting doing business on the Internet does not necessarily guarantee competitive advantage. A business website should thus be carefully designed; however, Schlosser and Kanfer point out [16] that: many websites do not incorporate features that exploit
the unique capabilities of the Internet; they lack navigational tools that could help visitors find the site and assess its beneficial features; and other promotional media (i.e. print) are seldom integrated with online marketing strategies.

The webpages form a network of text, graphics, etc., each of which should bear one or more definite purposes that are part of the company’s strategy. To determine important features that aid in the success of a particular business, it is appropriate to find a theoretical relationship between Web features and the development direction of a business website.

The framework introduced here is a grid-structure that provides a position for each feature incorporated in the website. This study takes the customer’s perspective, which is generally ignored by most technical webmasters.

2. How should a website be developed?

Feher and Towell’s survey [8] suggests that the Web technology should be adapted to and used by a business in four stages: (1) identification and initial investment, (2) experimentation and proliferation, (3) control of its proliferation, and (4) widespread technology transfer. Like many other staging theories (e.g. Churchill and Lewis’s stages of small business growth [6]), Feher and Towell provide a step-by-step method that could easily induce problems [17].

Frederick Riggins [14] studied a number of retailer’s websites and identified several features that enhance business through good communication in five categories:

1. compression of time;
2. overcoming geographical restriction;
3. restructuring relationships;
4. company–customers interaction and
5. potential to offer new product/services.

These indicate directions where Web technology can be applied. However, Riggins’ values were deduced from the company’s perspective and that could be different from those of the customer.

To make use of the Web, a business company should identify the opportunities and advantages that come with a website. Although advantages are discussed in various studies [9,12] there is little attempt to analyze these advantages for different business functions. For example, Hamill and Mangurian discussed opportunities on the Web with respect to Porter’s three strategies: cost leadership, differentiation and focus. They perceived Web technologies as a high-level strategic advantage. Webmasters seek some lower-level guidelines that may easily be influenced by Web technology. Customers’ views on the websites are seldom asked.

3. Customer’s perspectives

Research on Web advertising generally considers how customers perceive the business. Robert Ducoffe suggested [7] that an advertisement should be assessed by customers’ value rather than its informational content. He distinguishes advertising value on the Web on three dimensions: informativeness, irritation, and entertainment. Thus, customers should find the advertisement useful in supplying the necessary information; it should not carry any provoking messages and the customers should enjoy the advertisement. Visitors may compare their experience of real shopping with browsing on the Web; features on the Web are the real trading factor. Customers must be satisfied with what they find on the website or they will not buy. Similar views are found in the Tenth User Survey [4].

Jarvenpaa and Todd [11] categorize customers’ concerns into:

1. Product perception — quality, variety, price;
2. Shopping experience — effort, compatibility, playfulness;
3. Customer service — responsiveness, assurance, reliability, tangibility, empathy and

These factors represent a list of attributes that customers might find on a retailing website. The list may help a webmaster to identify its strength and weakness.

However, a transaction is not a single-step process. If analyzed by Jennifer Rowley’s five components of online transaction [15], the Internet may contribute to promotion, one-to-one contact, closing, transaction, and fulfilment. Our study also includes ‘services’ and
modifies some of Rowley’s components to focus on four processes:

1. Promotion — advertising, brand identity;
2. Pricing — catalog;
3. Transaction — ordering, delivery (outbound logistic), payment and
4. Services — information search, advice.

4. The process-value framework

A commercial website is an interface between customers and the company. If Rowley’s processes are evaluated in terms of Jarvenpaa and Todd’s four classes of values, a framework of Web attributes can be built in the form of a matrix (Table 1).

The values are defined as the following.

Information: Many companies look at their websites as a billboard; Albert Angehrn refers it to a ‘virtual information space’ [5]. From the visitors’ point of view, it is very important that the information be useful. In Ducoffe’s terminology, it is the ‘informativeness’ that matters.

Friendliness: If the website is a simulation of a retailer shop, this is a measure of the ‘shopping experience’. The content of the website and its accessibility can be evaluated in terms of ‘irritation’ versus ‘entertainment’. However, as business transactions in general include something more than just shopping (e.g. the addition of sales, delivery, and services), ‘friendliness’ should be a term that is more appropriate.

Responsiveness: The term is defined by Watson and Pitt [19] as willingness to help customers; it can be measured by the time taken before replying to a customer’s inquiries. However, the term may also be measured by the firm’s reaction to market changes, such as price war. To the disadvantage of website management, advances in the Internet and computer technology leave little excuse for any delay in responding.

Reliability: In the customers’ eyes, this is related to many issues: credibility, security, legality, and assurance, etc. These represent a multitude of technological problems that must be handled by the business.

Business processes are separated into four areas. This makes the framework a 4×4 matrix, where different elements can be positioned. However, the matrix is constructed as a general framework for most businesses. To illustrate how websites can be analyzed by using the matrix, we now summarize the attributes of online bookshop sites.

5. Online bookshops

The recent success stories of online bookshops are typical of retail business on the Internet. Hundreds appear on the Web but only a few are advertised on the famous search engines, see Table 2.

5.1. Web attributes of online bookshops

Homepages of online bookshops provide a sneak preview of how they are running their e-business. To a web surfer, the homepages are indistinguishable from the bookshops they represent; the two terms are thus used interchangeably here. Various features that are pertinent to online bookshops can be classified according to the matrix. However, as these homepages are changed very rapidly, features discussed here serve only as an illustration of the applicability of the matrix model (Table 3).

5.1.1. Promotion

The structure of the online bookshops is generally shown in a toolbar besides the company logo at the top
of the page. A search engine is situated somewhere in the center. The rest of the page resembles the window display of a real bookshop.

Without any click on any link, the viewer always find information about the bestsellers occupying the most conspicuous corner of the homepage. Pictures of a couple of books may be shown with a few lines of description. AMZN provides a list of 100 hot books in the side bar and BGP even gives four lists of bestsellers. However, comparatively little space is given to bestsellers in BKS’s homepage; its list is found at the very end of the page, near to a link to the disclaimer. In addition to the highlighted corner, BGP offers ‘bargains galore’ and a category of subjects.

Friendliness of the webpage is revealed by how easily a search engine can find a book for a visitor. Some bookshops like their search engines to return an accurate list of book titles, while others may take a lower accuracy policy in order to retrieve more related titles. For example, when Jonathan Harr’s *A Civil Action* is the key, BKS returns a list of nine titles (where seven are relevant), while AMZN and BGP produce a list of 192 and 424 titles, respectively.

Reviews, ratings, and excerpts are available when a link to a book is ‘clicked’. To foster a friendly atmosphere, visitors are always invited to return their own comments to add to the review section of the page. Most online bookshops keep a vast database of their ‘members’. They either admit new members when they are first-time customers or invite any visitors, whether they place an order or not, to acquire a membership that lets them receive news of discounts, hottest titles, and events at the bookshop.

The issue of responsiveness is seen in three ways:

1. Load time — Being aware of the response time problems arising with graphics and frames, these

homepages have small pictorial illustrations and no frame structure that reduces the load time. AMZN even puts a sign of *Text Only* at the end of its homepage; it is essential for viewers whose computers do not receive graphics rapidly.

2. Search time — When a book title is requested, the time spent by a search engine depends on the size of the database as well as the accuracy policy.

3. Update rate — Among the three bookshops, only AMZN states, in its side bar, that its list of 100 Hot Books is updated hourly.

For first-time customers, reliability of the bookshops mainly lies in its security guarantee. AMZN posts a statement of its guarantee in the center of its homepage. Other bookshops put the statements in a less conspicuous place.

5.1.2. Pricing

After a book is found, usually by using the author’s name and/or book title as a key, the price of the book is shown. Further information, such as the edition, ISBN of the book, soft or hard cover, number of pages, and physical dimensions may accompany the price.

Many bookshops offer gift certificates as an alternative to merchandise. Their webpages provide a link to the information on the price of the certificates. Discount that they give to visitors, together with the original price and amount saved, are also shown as a gesture of friendliness.

Nonetheless, few of these bookshops demonstrate how responsive and reliable their pricing could be. They only claim that bestsellers are sold at 50% of the *New York Times* quoted price at publication. There are *price comparison websites* such as www.acses.com where people can find the cheapest website.
Table 3
Attributes of online bookshops

<table>
<thead>
<tr>
<th>Customers’ values/business processes</th>
<th>Information</th>
<th>Friendliness</th>
<th>Responsiveness</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotion</td>
<td>General information, book categorized, out-of-print bargain books</td>
<td>Search engine, book reviews, suggested readings, membership</td>
<td>Load time, search time, update rate</td>
<td>Celebrity business, alliance security, guarantee</td>
</tr>
<tr>
<td>Pricing</td>
<td>Book ID, front-cover, gift certificates</td>
<td>Discounts</td>
<td></td>
<td>Price comparison</td>
</tr>
<tr>
<td>Transaction</td>
<td>Order procedure, payment procedure, shipment</td>
<td>Unorder before checkout</td>
<td>Acknowledgement</td>
<td>Security</td>
</tr>
<tr>
<td>Services</td>
<td>Help desk, delivery information</td>
<td>Membership validation, contact person, return shipped books free gift, newsletters</td>
<td>Order status, check shipment, tracking delivery time out-of-print</td>
<td></td>
</tr>
</tbody>
</table>
5.1.3. Transaction

Visitors are assumed to be carrying their ‘shopping bag’ or ‘shopping cart’ when browsing the bookshop website. If they add a book to the ‘bag’, information such as method/cost of delivery and method of payment will appear to help the customers complete the transaction.

A friendly bookshop shows the titles of the books that the customer has put in the shopping bag and allows the customer to remove any while they are still browsing. When a customer finally decides to ‘check out’ the bag (i.e. complete the sale), the customer may need to validate membership or supply other personal data such as a credit card number via a series of data-entry forms. However, the design of these forms is sometimes discouraging. Hints or help information is not always present. The demographic data of the member is often spread over several pages, and this may result in prolonged transfer time.

A responsive bookshop e-mails a prompt acknowledgement of the order within minutes after receiving the order. Customers must be assured that the bookshop is so reliable that the security of both ordering and credit-card payment are treated with utmost privacy and appear important to the firm.

5.1.4. Services

Information concerning the orders may become accessible through a ‘help desk’ in the online bookshops. The entry to a customer’s account is usually situated at the top right corner of the webpage. Information of various services are available once the account is verified.

The friendly services include the following.

- Authentication — When the customer’s account is verified, help will be provided if a password has been forgotten. After authentication, the order status may be returned online or by e-mail.
- Return policy — Bookshops usually adopt a policy that allows customers to return books after they are shipped. The entire process may add to customer confidence that they have every right that would apply when purchasing in a real bookshop.

Most services requested by a customer are either related to book searching or order tracking. The computer of the bookshop can respond to requests by tracking any unshipped via the publisher or the courier company employed. The website may be more responsive if contact to a real person is available whenever the customer wishes to have help in using any service of the bookshop.

6. Summary

Almost all of the matrix elements are found in the online bookshops. There may be different marketing strategies and customer targeting that affect the site design. It is clear that most bookshops treat their websites as a business promotion tool; second in importance is their services.

The matrix also includes a few sparsely occupied elements. Relatively few structures on those observed websites are classified under these elements. For example, some elements belonging to the pricing and transaction functions have little or no features. The corresponding webmasters may not consider these attributes important, without judging the customers valuation of them.

7. Conclusions

This article describes a framework for analysis of website designs. It places features in a matrix of business functions versus customer values. The framework shows areas where customers may be concerned and they should help webmasters develop better commercial websites.

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References


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