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The Web in Marketing: Information Cue Usage in Two Commercial Domains
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Abstract
The study reported in this paper involves a comparison of Resnik & Stern’s (e.g., 1977) information cue usage in websites registered in two commercial domains of the World Wide Web (Web)—.com (global domain managed by VeriSign) and .com.au (a country domain, auDomain, managed by the Australian Domain Name Administrator—AUDA). The hypothesised higher use of information cues by digital marketers with .com registered domain names relative to .com.au registered domain names is not supported. Examination of the audited websites in the two-domain comparison confirms that the Web provides a richer marketing communication medium than other media analysed in a meta-analysis of 117 datasets by Abernethy & Franke (1996). The study is important given the acknowledged influence of advertising information on consumer responses to ads and the brands they relate, to both in traditional and new media (Aaker & Stayman, 1990; Brown & Stayman, 1992; Bruner & Kumar, 2000).

Introduction
From an examination of the history of commercial use of the Web, which began in 1994, it is evident there have been various attempts by organisations to use digital technology to communicate, transact and maintain relationships (Authors; Authors). The present paper reports a study of commercial websites and focuses on commercial use of the Web in marketing communication. It is also evident that different performance measures have been used over time, and this aspect is briefly commented upon in the reported background literature from which research hypotheses were developed. A section that presents the methodology employed is followed by discussion of the findings. The paper concludes with discussion of the limitations of the study and the need for further research.

Literature synthesis and analysis
In the 14 years since the graphical face of the Internet—the World Wide Web—was first used commercially, the Web has developed beyond its early marketing communication use as a one-way medium (e.g., banner ads and interstitials) to become an interactive medium. In this latter guise, and particularly where subscribers are involved, the Web is more closely aligned with direct marketing than mass marketing. More recent developments in interactive communication have been grouped under the Web 2.0 banner. These include Social Networking (which includes specialised websites such as MySpace, Facebook, del.icio.us, Friendsreunited or an approach to engaging visitors and subscribers taken by such sites as Rage—www.abc.net.au/rage—and MTV); Sharing sites (blogs, RSS—really simple syndication, YouTube, Flickr, Technorati); Collaborative Wikis (Wikipedia and other non-moderated sites, or Citizendium, where there is a degree of moderation); Widgets and Ajax applications (these code-driven tools enhance the browser–website interface for users). Not all of the developments mentioned are seen to be likely to make a positive contribution to organisational performance or to society at large (Keen, 2007).
Regardless of these interactive developments, the Web is employed in all manner of marketing communication, much of which might be termed display advertising, and almost all of which is dependent upon users searching for information. It is important to note that informational queries are more prevalent than either navigational or transactional queries on the Web. Of the two types of search—organic (or algorithmic) and paid search—the former is more likely to be associated with information searches, while the latter is more likely to be associated with transactional searches (Broder, 2002; Jansen & Spink, 2007). Laffey (2007) suggests that the impact of paid search has been widespread. Google is pre-eminent in generating page impressions and conversions (click-throughs to such calls to action as form-filling or buying) for AdWords buyers and shared earnings for the registered hosts of its online Ads. The analytics which Google provides to AdWords campaign users are important in optimising returns from commercial websites focusing on organic and paid search rankings, e.g., conversions such as sales; return on Ad spend (ROI); clicks; clickthrough rate; impressions (see Google, 2007).

Arguably, keyword content on websites is more important than keyword content in more traditional media if for no other reason than the fact that search engines provide free of charge (to the searcher) access to the results of these ‘keyword’ searches, viz., information sites (e.g., company names, brands), transaction sites (e.g., Cablechick.com.au) and navigation sites including search engines, directories, portals and aggregator sites (e.g., Paperexchange.com.au).

Moreover, organisations facing global markets—multinational enterprises (MNEs) such as Loewe, Microsoft, Sony—have tended to develop multiple versions of their websites in both the global domain and in various country domains (Okazaki, 2004). The research question therefore arises as to what form the marketing communication content takes on active commercial websites in these domains. This question, when coupled with the established connection between a country’s TCP/IP (Transmission Control Protocol/Internet Protocol) development and the communication capability of websites (Dou et al., 2002), led to development of the following hypothesis:

H₁: Websites registered in the .com (global domain managed by VeriSign) evidence marketing communication that is richer in content (information cues) than websites registered in the .com.au (country domain managed by auDomain).

While researchers have analysed the content of Web users’ keyword searches (e.g., Broder, 2002; Jansen & Spink, 2007), this is not the same thing as analysing the content of commercial websites. To more fully answer the earlier-mentioned research question, we turned to the work of Resnik & Stern (1977) and the 14 evaluative criteria (termed information cues) they used to ascertain how informative various television commercials were at the time. The criteria have been used in many subsequent studies as Abernethy & Franke’s (1996) meta-analysis of 117 datasets attests concerning five advertising media: television, radio, magazines, newspapers, and outdoor. Given this, we employed 10 of the 14 information cues in the present study, noting that a more recent cross-cultural study involving Web-based content employed 12 of the information cues (Okazaki, 2004). As Table 1 indicates, four information cues were not employed in the present study. ‘Taste’ and ‘Nutrition’ were felt to be restricted to food products and were not used, while the two which Okazaki included, but were not included in the present study, were ‘Packaging/shape’ and ‘New ideas’. The former cue was omitted, as it was not thought relevant to the many online service organisation websites, while the latter was assessed differently. ‘New ideas’ was assessed in interactive terms, i.e., whether or not websites sought new ideas from visitors.
Harrison, Waite and Hunter’s (2006) study of a small number of specialist UK pension provider websites employed 11 of Resnik & Stern’s (1977) information cues and found that these sites were more information rich than the media in the earlier studies mentioned. This led to development of a second hypothesis concerning the information richness of a broader and larger sample of commercial websites relative to media examined by earlier studies (i.e., Resnik & Stern, 1977; Abernethy & Franke, 1996):

\[ H_2: \text{Websites registered in the .com (global domain managed by VeriSign) and websites registered in the .com.au (country domain managed by auDomain) are likely to evidence marketing communication that is richer in content (information cues) than other media.} \]

**Methodology**

In the present study, we examined randomly selected domain names from the 40 million population of .com domain names downloaded with VeriSign’s permission in November 2006. Because of the size of the .com zone database, an algorithm was developed to extract 30,000 domain names based on random number generation. This file of 30,000 domain names from the .com zone became a sampling frame. An editing tool was used to enumerate each record (domain name) in the working database, and to randomly extract 1,300 domain names in November 2006 (Authors). These domain names resolved to 746 websites, which were initially examined by a single researcher to confirm their prime activity as a single business site. We found 335 websites to be active online business websites, and that 411 were ‘parked domains’, or ‘re-directs’ of the query of one domain name to another. Parked domain names are dynamically created using programs and design algorithms provided by the hosting service and are mostly designed to earn income from visitor clickthroughs to the many sites directly linked to them or carried as search engine ads. While the high number of ‘parked domains’ indicates the emergence of a new business model on the Web (Authors), they were not of primary interest in the present study. Of the 335 sites checked for auditing, 165 could not be audited for various reasons, such as the fact that more were found to be ‘parked sites’, the domain name did not resolve to a website or access was via username and password.

The AUDA drew a random sample of 300 .com.au domain names from the population of 841,164 for the researchers in the present study to use in September 2006. It is of note that only registered businesses were able to register a .com.au domain name and that at the time, we did not expect to find many ‘parked domains’ that were not an active online business website. Nevertheless, of the 600 sites checked for auditing, only 151 could be audited for the reasons expressed earlier concerning ‘parked sites’, ‘redirects’ and the like.

As part of a larger study employing a marketing audit tool, the Marketing Readiness of Website Indicator (MRWI), two independent auditors were trained via both face-to-face practical sessions, and pre-recorded demonstration audio-visuals using screen-capture software. The auditors then independently analysed, manually, the total of 300 .com and 300 .com.au commercial websites to which the selected domain names resolved, spending 20-30 minutes on each website, including identification of the nominated Resnik & Stern (1977) information cues.

**Findings and Discussion**

At the time of their initial study, Resnik & Stern (1977) were ‘startled’ by the paucity of marketing information carried by the advertisements of the day. Resnik & Stern classified an advertisement as informative if the ad carried one information cue, and that on this basis less than half the ads were informative.
We firstly adopted the approach taken by Okazaki (2004) in his study whereby he began with an assumption that it should be possible to classify the websites where information cue presence had been identified into the two (cultural) groups he was studying using discriminant analysis. This approach employing discriminant analysis enabled him to classify the studied websites into two distinctly separate groups.

However, in the present study, it was found that it was only slightly better than chance that the .com and .com.au domains could be statistically identified by discriminant analysis, as the Grouped Classification of 58% presented as part of Table 1 illustrates. These findings do not support H1. In effect, the .com global domain websites and .com.au Australian domain websites are similar in their information cue content (see Table 1). The statistical analysis from this point on deals with a single dataset of 316 cases based on the similarity in the information content of each domain.

Table 3. Standardised canonical discriminant coefficients for information cues

<table>
<thead>
<tr>
<th>Information Cues</th>
<th>.com, n = 165</th>
<th>.com.au, n = 151</th>
<th>Function 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Percentage</td>
<td>Count</td>
</tr>
<tr>
<td>Price/value</td>
<td>102</td>
<td>61.8</td>
<td>101</td>
</tr>
<tr>
<td>Quality</td>
<td>90</td>
<td>55.2</td>
<td>76</td>
</tr>
<tr>
<td>Performance</td>
<td>44</td>
<td>26.7</td>
<td>44</td>
</tr>
<tr>
<td>Components/Parts</td>
<td>52</td>
<td>31.5</td>
<td>61</td>
</tr>
<tr>
<td>Availability</td>
<td>94</td>
<td>57.0</td>
<td>99</td>
</tr>
<tr>
<td>Special offers</td>
<td>107</td>
<td>64.8</td>
<td>89</td>
</tr>
<tr>
<td>Warranty</td>
<td>57</td>
<td>34.5</td>
<td>42</td>
</tr>
<tr>
<td>Safety</td>
<td>39</td>
<td>23.6</td>
<td>25</td>
</tr>
<tr>
<td>Independent research</td>
<td>29</td>
<td>17.6</td>
<td>20</td>
</tr>
<tr>
<td>Company research</td>
<td>28</td>
<td>17.0</td>
<td>19</td>
</tr>
</tbody>
</table>

Eigenvalue = 0.07; Canonical correlation = 0.25; Wilk’s Lamda = 0.94; Chi-Square = 20.66; Significance < 0.05; Grouped classification = 58.2%

Note: None of the percentages for each cue shown in Table 3 differed statistically for the .com and com.au domains, at the 0.05 level,

Given the oft-claimed richness of the Web (e.g., Okazaki, 2004; Harrison et al., 2006), it was not surprising to find that of the 316 audited commercial websites in the present study, 87.7% carried at least one of the information cues shown in Table 1 versus 84% in the 117 datasets analysed by Abernethy & Franke (1996). The mean count of information cues in the sampled websites was four versus two (2.04) found by Abernethy & Franke across 118 datasets (they only use 117 datasets for media norms due to Swedish Cinema ads not being shown separately).

In their study, Resnik & Stern (1977) found that only 1% of the sampled commercials carried three information cues. In the present study, 64.9% of the sampled websites carried three or more information cues. On this basis, we must conclude that .com and .com.au websites are informative relative to Resnik & Stern’s sample. There is the same clear-cut finding relative to Abernethy & Franke’s (1996) meta-analysis wherein they found that only 33% of the 91,000 ads involved carried three or more of the cues from the expanded set of 14 cues. Relative to the media covered in the original studies they examined, the sampled websites are more informative. Arguably, this outcome is due to the nature of website content in that it is a function of hypermedia and the ability to link to all manner of downloadable and streaming content such as company ads. Therefore, H2 is strongly supported.
Not surprisingly, the mean number of cues found in the present study is lower (4 out of 10) than the mean number reported by Harrison, Waite and Hunter (2006) (7 out of 11) in their study of a small number of specialist UK pension provider websites. Arguably, websites in single industries tend to be more homogenous in terms of the information they convey, and in their overall structure (Authors).

Turning to the matter of whether websites in each domain sought information concerning new product ideas from their visitors, there was no statistically significant difference evident between the websites in each domain. Overall, 24.4% of the 316 audited websites sought this information from their visitors. While this is not the same thing as stating that the websites do not carry information on innovation and new products, the low proportion seeking comment is, nevertheless, telling. However, slightly over half (51.8%) of the websites carried ‘What is New’ information links. We contend that this too is low.

**Limitations**

It may be tempting to argue that one limitation of the study is that it only involves auditing the ‘visible web’—those sites that are publicly displaying information. That is, the study does not delve into the sections of the website only visible to customers and visitors who have signed into a username/password protected section of the sites. While this is indeed a limitation of any such study of the marketing information content of websites, it is of note that only 23.8% of the audited sites provided an extranet visible to both subscribers and employees. Moreover, markets are comprised of potential, actual and past customers. Thus, it would be limiting from a marketing perspective to present important marketing communication to subscribers and ignore potential and past customers.

On the one hand it is important to audit as representative a sample of commercial websites as possible, while on the other, it is clear from studies of single industries (e.g., Harrison *et al.*, 2006) that homogeneous groups of websites do present differing use of the Web in marketing communication, as in other uses (e.g., the marketing logistics network use of the Web examined by Adam & Bednall, 2005), relative to a widely drawn sample.

**Future research**

Given the acknowledged influence of advertising information on consumer responses to ads and the brands they relate to both in traditional and digital media, e.g., reducing uncertainty in brand choice (Aaker & Stayman, 1990; Brown & Stayman, 1992; Bruner & Kumar, 2000), the present study’s findings are important. While it is possible to observe how companies are employing the Web in marketing communication, or any aspect of marketing for that matter—further research is needed to establish why they are using the Web, and whether Web use is integrated with other elements of marketing communication. For example, one question that arises is whether campaign themes carry through from traditional media to website content. Moreover, it is important that we move beyond monitoring intervening variables such as the earlier-mentioned Google analytics and examine in more detail the nexus between marketing on the Web and organisational performance—both marketing and financial. This multi-phase research is now beyond the planning stage and will supplement such studies as Eng’s (2008) study of the influence of the Internet on service responsibility and organisational performance.
References


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