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# Internet positioning and performance of e-tailers: An empirical analysis

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ABSTRACT

This paper presents an empirical study of e-tailers' Internet positioning. Using a sample of 138 US web-based businesses and 20 positioning variables, the paper analyzes the visibility of e-tailers' web pages, their relevance in search engines, their reputation in shopping portals and their popularity in blogs and news portals. Principal component analysis is used to conduct an exploratory examination. The relationship between Internet positioning and e-tailers' performance is also examined in two ways: web metrics in terms of the number of visitors to the website, and financial results based on sales, profits, productivity, and sales growth. The results identify two kinds of Internet positioning: people-based and search engine-based. The study finds two basic kinds of competitive advantage for e-tailers: cost leadership and differentiation. No positive relationship is found between positioning and sales growth.



## 1. Introduction

Well-known and reputable high street shops are more successful in converting a significant number of passer-by into potential customers than their lesser-known and less-trusted competitors. Online shops are similar, except that customers make purchases from web pages instead of from a physical location. Internet shops attract customers in two ways: through their overall reputation and popularity and through ranking highly in search engine queries. This paper explores the relationship between Internet positioning and the two basic types of competitive advantages available to companies: cost leadership and differentiation (Porter 1980). It also analyzes the relationship between Internet positioning and business success measured by visits to the web page and by financial results. Finally, the study conducts an empirical analysis using data from US e-tailers.

A company can improve its Internet position in several ways. For example, it can increase its visibility on the World Wide Web, its relevance in search engines, its popularity in blogs and news portals, and its reputation in shopping portals. Numerous authors have studied each of these methods individually. Thelwall (2001) analyzes web page visibility using variables such as the number of incoming web pages that link to a company's web page. Zhang and Dimitroff (2005) and Jansen and Molina (2006) also study this concept. Drèze and Zufryden (2004) find that the comments appearing in forums and blogs can be used to assess web site popularity. Rajgopal et al. (2003) find that comments in news database search engines are also relevant. Kotha et al. (2004), and Senecal and Nantel (2004) study the opinions of virtual shop customers to measure reputation. Each of these variables measures an aspect of positioning, and they can all be correlated.

Several academic studies analyze the relationship between the indicators of Internet positioning and the success of dot-com companies. Different variables measure this success, including web metrics, which are indicators that calculate the number of visits and visitors to the website (Nikolaeva 2005); financial results (Serrano-Cinca et al. 2005); and the appreciation of company shares in capital markets (Keating et al. 2003). Trueman et al. (2001) find a positive and significant relationship between revenue and web traffic. Serrano-Cinca et al. (2005) calculate the efficiency of generating visits to a company web site by employing the data envelopment analysis (DEA) technique, using financial accounts as inputs and web metrics as outputs. They do not, however, examine closely the reasons behind visits to web pages.

Most studies find a significant relationship between Internet positioning and web metrics. However, the association between Internet positioning and financial results, such as sales and profits, is less clear. This may be due to the infancy of the e-commerce sector, which in its early stages is focused on expansion instead of short-term profitability (Wilson-Jeanselme and Reynolds 2005). Regarding the relationship between non-financial indicators, such

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as web metrics and share prices, results are inconclusive and vary according to the date of the study, namely before or after the dot-com crash in the year 2000 (Benbunan-Fich and Fich 2004).

Previous studies analyzed partial aspects of this subject but were unable to offer an overall picture. This paper explores the associations among all of the components related to Internet positioning and company performance by evaluating their web metrics and financial results. A broad picture is obtained using property fitting analysis (Pro-Fit), a regression-based technique that allows the visualization of both the cases and the influence of variables in a scatter plot. The two competitive strategies that companies follow can be identified: cost leadership and differentiation (Porter 1985).

The paper is structured as follows. Section 2 offers a review of the recent literature on the subject. Section 3 presents the empirical study, using data from U.S. e-tailers, and places particular emphasis upon the selection and exploration of Internet positioning variables; it also analyzes the relationship between positioning and performance using linear regressions. Section 4 presents the conclusions.

## 2. Literature review

Several studies have attempted to model the path an Internet user follows until a purchase is completed, as well as to analyze consumers' online buying experience (Szymanski and Hise 2000; Wolfinbarger and Gilly 2003; Rohm and Swaminathan 2004; Keen et al. 2004). But selling, even over the Internet, is still selling, and the classical models can apply here, if the appropriate adaptations are made.

Lucas (2001) reviews approaches for analyzing and developing business strategies for Internet and electronic commerce. According to Ghosh (1998), the Internet can be used to create 'Digital Value' for customers, by offering additional information or transaction services to the existing customer base, by addressing the needs of new customer segments, or by generating new sources of revenue. McCarthy (1960) proposes the well-known model of the 4Ps: product, price, promotion and placement; Shin (2001) adapts this model to the sales process of Internet companies. Using the paradigms of exchange, relationships, and digital interaction in networks, Kalyanam and McIntyre (2002) identify 11 e-marketing functions that form the elements of the e-marketing mix. A series of studies emphasize each of the Ps in the case of dot-com companies. For example, Grewal et al. (2003), Kotha et al. (2004), and Chun and Kim (2005) analyze the different pricing strategies that online and offline companies employ. Sinha (2000), and Grewal et al. (2004) analyze the different strategies related to the kind of products traded over the Internet. Because Internet consumers cannot generally feel and touch the products on offer, many e-tailers try to compensate for the limitations of shopping online by offering, for example, virtual tours to hotel rooms or listening to the sound of a musical instrument before purchase; Laroche et al. (2005) explore this issue of intangibility. Grönroos et al. (2000) point out that it is relevant to add user interface to the traditional concept of service. Schoder and Madeja (2004) find that the application of CRM (customer relationship management) is a critical factor for successful electronic commerce. Bergendahl (2005) studies the placement issues of e-commerce.

Trout (1969), and Ries and Trout (1981) introduce the concept of positioning, claiming that "positioning is not what you do to a product; it is what you do to the mind of the prospect." Thus, the definition of Internet positioning might be the process of creating an identity in the mind of an Internet user. Internet positioning belongs to the promotion category, which has to date received the most research attention of the four Ps.

Several techniques are used to build Internet positioning. The first is called "web visibility." Internet users can access a virtual shop not only by entering its address into a browser address bar, but also by clicking on a link to the virtual shop from another web page. The more web sites that provide access to the shop, the more visible it is, and the more Internet users can access it (Thelwall 2001). Location and brand are often identified as the most significant influences on store traffic in the case of offline retailers, but for online retailers, Drèze and Zufryden (2004) suggest that online visibility is strongly related to web site traffic. Their study shows that visibility has a more significant impact on traffic generation than either advertising expenditure or awareness. This is corroborated by Ennew et al. (2005), who find that in online stores the number of links to a virtual shop explains approximately 60% of the variation in site traffic.

The second Internet positioning tool is search engine relevance. Visitors can also enter a web site via the main search engines. Many experts claim that search engine positioning is the principal Internet promotion technique. As a result, a new tool, a search engine optimizer (SEO), has come into being. Zhang and Dimitroff (2005), and Jansen and Molina (2006) study the factors contributing to search engine relevance, such as the number of times a keyword appears in the home page, or how different web page formats affect the results. Even though such engines use patented algorithms, one of their rules is to award a higher ranking to the more popular web pages; this means that the number of incoming links to a web page is important (Vaughan and Thelwall 2004). The PageRank algorithm uses this concept, which lies at the heart of the Google search engine (Brin and Page 1998). Nielsen Netratings (2004) reveal that 76% of US Internet users employ search engines and that conducting online searches is the most frequent Internet activity. Moreover, according to ComScore Networks and DoubleClick (2005), 50% of Internet buying decision begins with a search engine query.

For Internet companies, as for their offline counterparts, being well-known is also important. One of the favorite leisure activities of Internet users today is reading online newspapers and contributing comments to forums and blogs (periodically updated diaries in web format). Blogs enable the Internet community to share their opinions on whatever subject interests them and to receive comments, in turn, from others. The study by Drèze and Zufryden (2004) shows the growing importance of blogs. Their influence upon purchasing decisions varies according to the product type and the age of the customer surveyed. According to BIGresearch (2005), this influence ranges between 1% and 10.5%.

Tsang and Zhou (2005) assess the marketing communication value of Internet newsgroups and conclude that they serve as a new, valuable and easily accessible channel for marketers to use in reaching and influencing opinion leaders. Lin and Huang (2006) find that "Generally, people are defensive towards e-mail marketing, but a message about a web site shared voluntarily by people among their friends via an e-mail channel is easily acceptable." Thus, popularity is the third issue companies must take into account when designing web positioning strategies.

The fourth positioning issue relates to company reputation in shopping portals. While a good reputation is naturally important for conventional shops, it is even more important for e-tailers because their goods cannot be fully perceived by the five senses (2006). Customers' opinions are important; as a result, numerous shopping search engines and portals offer consumer ratings for virtual shops. Jøsang et al. (2007) present a survey of the trust and reputation rating systems for online shops. Standifird (2001) explores the impact of reputation (measured by the ranking achieved by Ebay sellers) upon the final price achieved in online auctions. He concludes that positive ratings have a slight influence upon the final price. In contrast, however, he concludes that negative ratings