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Marketing on the Web: A Resource-Based Perspective

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Abstract

The rapid growth of the World Wide Web in recent years has opened up a new avenue for companies to market products and services and disseminate information about them. Two hundred and twelve companies which were listed on the Internet Mall responded to an e-mail survey about what they sought from it. A structural equation model is consistent with the view that they seek to gain strategic advantage by using improved customer information to (1) change the way they conduct business and (2) better their customer orientation.

Introduction

Electronic commerce is emerging as an increasingly important means by which organizations can compete. Marketing on the Internet is one feature of electronic commerce (Stewart, 1993). The research described here assessed what organizations planned to gain by using the Internet to market their products and services. The resource-based theory is the foundation for this research.

Resource-Based Theory of Firms

Enhancing firm competitiveness and creating strategic advantage has become a critical goal for corporations. Not surprisingly, this goal has evoked the interest of many researchers in the field of strategic management (Porter, 1985; Rumelt, 1984). Information technology (IT) has also been mentioned for its possible role in competitiveness (Clemons, 1986; 1991). However, an understanding of the use of IT for competitive advantage is relatively underdeveloped, both empirically and theoretically (Jarvenpaa and Ives, 1990). The research described here uses the resource-based perspective of firms (Wernerfelt, 1984; Barney 1991) to study empirically the competitive advantage that firms hope to achieve by implementing electronic commerce. The resource-based perspective focuses on costly-to-copy attributes of a firm. These attributes are seen as sources of economic rents, i.e. returns in excess of the resource owner's opportunity costs (Tollison, 1982). They can therefore be viewed as the fundamental drivers of performance and competitive advantage (Conner, 1991). The resource-based perspective defines a resource as anything which can be thought of as a strength or weakness of a firm (Wernerfelt, 1984). Examples of firm resources are the

assets, capabilities, organizational processes, firm attributes, information, knowledge, brand names, in-house knowledge of technology, employment of skilled personnel, trade contacts, machinery, efficient procedures, and capital controlled by the firm (Barney, 1991; Wernerfelt, 1984). Firms use their resources to conceive of and implement strategies (Learned et al, 1969; Porter, 1981) which are aimed at generating rents (Bowman, 1974).

Resource-Based Theory and Information Technology

A recent study analyzed the potential benefits of information technology applications (Lederer and Mirani, 1995). The study used exploratory factor analysis on 33 potential IT benefits. Table 1 shows the factors and benefits items remaining after the analysis. Such benefits can be viewed as strengths (Wernerfelt, 1984) and hence as resources that enable organizations to change the way they conduct business and thus to increase their effectiveness and efficiency (Daft, 1983). By doing so, these companies can increase their competitiveness and create strategic advantage. The resource-based theory can be applied to interpret these benefits factors as firm resources. According to the theory, firms implement IT to gain such resources as improved information, return on investment, reduced technology costs, reduced travel costs, reduced workforce costs, better applications development, and adherence to government regulations resources. These resources allow them to change the way they conduct business by implementing strategies that improve their efficiency and effectiveness. This change provides the firms with strategic advantage.

Table 1: The Factors and Items from Previous Research

Factor 1: Improved information

B13 Improve management information for strategic planning

B17 Enable faster retrieval or delivery of information or reports

B18 Present information in a more concise manner or better format

B19 Increase the flexibility of information requests

B21 Enable easier access to information

B22 Improve the accuracy or reliability of information

B27 Improve information for management control

Factor 2: Strategic advantage

B8 Enhance competitiveness or create strategic advantage

B14 Enhance the credibility and prestige of the organization

B24 Improve customer relations

B25 Provide new products or services to customers

B26 Provide better products or services to customers

Factor 3: Return on investment

B30 Increase return on financial assets

Factor 4: Reduced technology cost

B5 Save money by reducing system modification or enhancement costs

B6 Save money by reducing hardware use

Factor 5: Better applications development

B15 Allow other applications to be developed faster

B16 Allow previously infeasible applications to be implemented

Factor 6: Reduced travel costs

B3 Save money by reducing travel costs

Factor 7: Reduced workforce costs

B1 Save money by reducing the workforce

B2 Save money by avoiding the need to increase the workforce

Factor 8: Business redesign

B7 Change the way the organization conducts business

Factor 9: Adherence to government regulations

B11 Facilitate organizational adherence to governmental regulations

Methodology

A survey instrument listed the original 33 benefits items. Respondents could choose from a 1 to 7 (1 being very little and 7 being very much) Likert-type scale to indicate the

importance each of the 33 had in implementing the entry at a World Wide Web site called the Internet Mall. A 34th question allowed them to enter a benefit and rating in addition to the 33. The survey had demographic questions and others not used in the current paper.

Three local area companies with Web entries participated in a pilot of the survey instrument. The study then focused on one of the noteworthy cyberspace shopping centers, the Internet Mall (Ellsworth, 1995). Fifteen companies with a listing on the Internet Mall were then randomly selected and e-mailed the survey as part of the pilot. The authors then e-mailed the survey to 846 subjects with entries on the Mall. A second e-mailing later went to the non-respondents. Completed surveys came from 212 subjects for a response rate of 25%. Respondents were generally highly experienced, having worked for their current employer in a variety of positions such as accounting, finance, marketing, sales, production, human resources, and information systems. They directly supervised about 10 employees and had 6 years of experience with their current employer. Most had at least a 4-year college degree and over 40% had attended some graduate school.

Data Analysis

Confirmatory factor analysis (CFA) tested the reliability of the model in Table 1 using the CALIS procedure of SAS (Joreskog and Sorbom, 1993). The individual measurement models for the multiple item factors all exhibited satisfactory fit. All the measures surpassed the acceptable levels except for the chi-square statistic. The single item factors were not tested because psychometric properties such as Cronbach's alpha and item-to-total correlations cannot be assessed for single-item constructs. The CALIS procedure, however, recommended refinements to the complete measurement model. These resulted in the creation of a new construct labeled Customer Orientation and the renaming of Improved Information as Improved Customer Information. Structural equation model analysis was then conducted. Analysis of modification indices and estimated path coefficients between latent constructs suggested that the model would improve with the addition of a link between improved customer information and customer orientation. The addition of this link is justified by the assertions that improved customer information creates customer orientation (Botsch, 1996; Daniele, 1994). Further improvement of the model came from adding a link from customer orientation to strategic advantage. Practitioners and researchers have described this link (Yasin, 1995; Slater and Narver, 1994; Webster, 1994). The final structural equation model appears in Figure 1. It shows acceptable psychometric properties.

Implications for Future Research

This research applies the resource based theory to a proposed model that explains how Web site implementers expect to gain strategic advantage. They expect to do so by using improved customer information to change the way they conduct business and to better their customer orientation. In doing so, it raises a number of questions for future research.

Do organizations actually achieve strategic advantage from the Web? How can customer information be further improved? Would doing so increase the changed business conduct and customer orientation and hence strategic advantage? Why were other constructs not significant in the model?

References available upon request from the authors.