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Resource Effects on Online Traffic of U.S. and Foreign Online Retailers

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Abstract

While leveraging critical resources becomes increasingly important in the emerging online marketplace, research addressing the link between resources and online performance is scarce. Despite recognizing the Web as a "borderless economy" few studies have explored the international nature and associated resources of e-commerce. This study builds on the resource-based view of the firm to assess the effects of resources (brand strength, foreign market know-how, market orientation, and affiliate network) on online retailer venture success in terms of online traffic, a performance measure specific to firms' e-commerce activities. The international nature of the firm is modeled as a moderating factor affecting the relationship between foreign market know-how and online traffic. The findings of a cross-national survey of e-commerce firms show that online brand strength, foreign market know-how and affiliate network size are predictors of online traffic. Additionally, foreign market know-how is related to online traffic for foreign but not U.S.-based firms.

Introduction

In a growing number of markets companies are confronted with increasing competitive pressures from international competitors. Adding to the intense competitive environment is the extensive penetration of the Internet around the world in many markets. With the attractiveness of the Internet as a sales channel, the prospect of profits has spawned a vast number of online ventures. At an unprecedented level, potential buyers and sellers are globally linked via the Internet. What differentiates firms that succeed online from those that do not? And, what is the basis of online retailer competition given the increasing power of online consumers who comparison shop have the opportunity to comparison shop at unprecedented levels (Alba, Lynch, Weitz, Janiszewski, Lutz, Sawyer, and Wood, 1997)? Answering these questions will help predict online retailer success. An assessment of these issues should aim at revealing the resources that support an online competitive advantage, allowing researchers and practitioners to ascertain the relative value of investments in resources. Many firms continue to devote substantial amounts of time and money in the online retailing economy and in the development of a sustaining resource base is imperative.

In an agenda for broadening marketing knowledge and practice, the American Marketing Association (2004) outlined the importance of a multi-cultural focus. The Journal of Marketing editor, Ruth Bolton, recently explained that investigations of global marketing is an area that is under-represented and deserves more attention (Bolton 2003). Furthermore, marketing functions often necessitate a global rather than a local focus. This is especially true for Internet-related businesses where presence on the Web automatically transcends national borders.

This research contributes to marketing and e-commerce as well as international business knowledge. First, the model considers the construct of online traffic, a performance measure central and unique to e-commerce. Second, online retail activity is examined internationally which reflects the reality of the Internet marketplace. Third, the proposed framework is based on the resource-based view of the firm (Barney 1991) and, consequently, investigates resources that are distinctly critical for the development of a competitive advantage of e-retailers within a cross-cultural context. Fourth, in contrast to most Internet research, the level of analysis is the organization rather than the individual.

Resource-based View of the Firm

Some companies are more profitable or have greater market share than other firms in the same industry. The resource based view of the firm (RBVF) attempts to answer why some firms outperform others. RBVF argues that firms that achieve superior performance typically possess particular resources or skills that allow them to outperform their competitors. These resources include assets, capabilities, processes, and knowledge that allow the firm to develop and implement strategies that improve its efficiency and effectiveness and that constitute the basis of a firm's competitive advantage (Barney 1991). A firm that has achieved such a competitive advantage is able to implement a value creating strategy that current or potential competitors are not implementing concurrently (Barney 1991; Peteraf 1993). When a competitive advantage is sustainable (i.e., resistant to duplication efforts of competitors), it is likely to lead to superior performance (Barney 1991).

At its inception, the resource-based view of the firm shifted attention to internal competencies criticizing the external focus on competition and industry of the then prevailing structure-conduct-performance (SCP) theory of firm performance within industrial organization (e.g., Bain, 1950; Caves, 1980; Porter, 1980). SCP attributes most variation of firm performance to industry differences and, consequently, assumes greater firm homogeneity than the RBVF, which argues for the importance of within-firm features.

RBVF assumes that resources that firms possess might be heterogeneous and immobile and that a firm's competitive advantage is based on such unique organizational resources, i.e., assets and capabilities. Consequently, the type and nature of firm resources are considered the determinants of profitability and key strategic choices concern the development of unique resources. Barney (1991) articulates four attributes that a resource must possess in order to have the potential of being sustainable. First, the resource must be valuable. Specifically, a valuable resource helps the firm formulate and implement strategies that improve efficiency or effectiveness (Bharadwaj, Varadarajan and Fahy 1993) by exploiting opportunities or neutralizing threats in the firm's environment (Barney 1991). Second, a resource must be rare relative to the current and potential competition. Even if a resource is valuable, it might not be a source of a sustainable competitive advantage if the competition (which does not possess the resource) can obtain it. Third, for a

resource to be a source of a sustainable competitive advantage, it must also be imperfectly imitable. In other words, an imperfectly imitable resource is not obtainable by firms that do not possess it. Imperfectly imitable resources can be embedded in a firm's unique history, or be causally ambiguous (i.e., the link between the resource and sustained competitive advantage is not well understood), or be socially complex (Barney 1991). Fourth, non-substitutability is the final requirement for a resource to be a source of sustained competitive advantage. Specifically, non-substitutability refers to the absence of strategically equivalent (i.e., different means to the same end) resources that are valuable but not rare or imitable (Barney 1991).

RBVF has been adopted in the management and international management literatures; however it has received less attention in marketing or Internet-related studies. Marketing studies that have adopted a resource-based view involved horizontal acquisitions (Capron and Hullan 1999) and competitive advantage in services (Bharadwaj et al. 1993). In the international business literature, the resource-based view of the firm has been used to explain competitive advantage in international services and included country-based firm and location specific resources (Fahy 1996). Collectively, these studies highlight the importance of superior resources/skills in the development of a competitive advantage and performance.

Conceptual Framework and Hypotheses

Businesses have traditionally defined themselves in terms of markets, focusing on the external environment. However, rapidly changing technologies and volatile customer preferences, challenge the sustainability of externally focused strategies. In addition, the Internet is increasingly changing the marketplace and the nature of competition. When the external environment is unstable, resource and skills provide a stable basis upon which a firm can define itself (Grant 1991). According to RBVF, defining a firm in terms of what resources it has and what it is capable of doing offers a stronger strategic foundation than a definition built upon satisfying needs of the external environment, and a superior resource-base hence constitutes a key source of profit (Grant 1991).

Resources and skills are, consequently, the basis for how firms compete online and how well they perform. Many of the early online companies failed due to their inadequate resource profiles and strategic orientations that were necessary for online success (Fahy and Hooley

2002). Although the resource/skill stock of online retailers may be extensive, there may be certain resources/skills that are more important to firm performance than others.

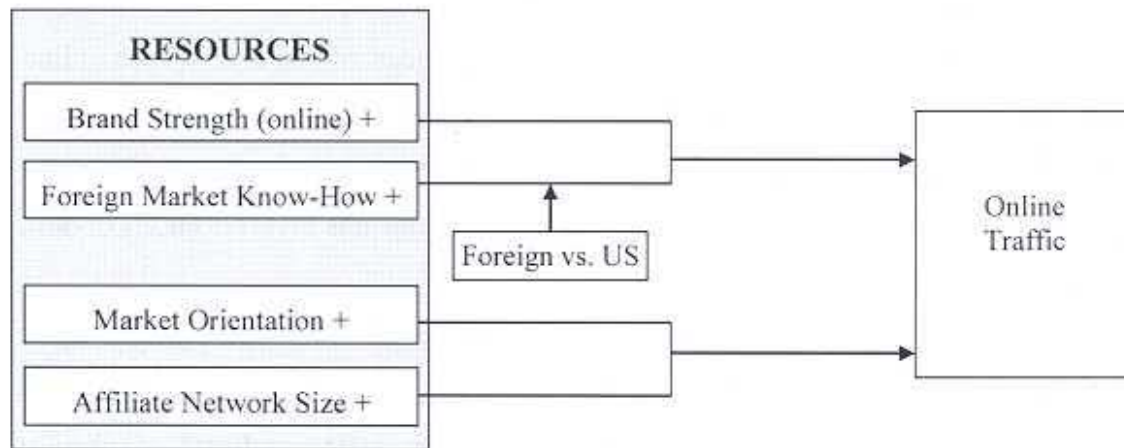
The purpose of this study is to propose critical resources of U.S. and foreign-based online retailers and examine the important, under-researched link between these resources and firm performance. The variable selection and conceptual framework are inductively based on interviews with online retailers, following an analytic induction approach (Deshpandé 1983), and deductively on the extant resource-based, Internet-related, marketing, and international business literatures. The objective is to understand the implications of key resources on online traffic. The study focuses on online traffic as a key performance measure that is unique to online retailing. Traffic or unique visitors¹ has been used as a proxy for customer acquisition (Kotha, Rajgopal, Venkatachalam 2004). Traffic is also used as a measure of online performance since many firms are not yet profitable. Furthermore, online companies invest millions of dollars each year in an effort to drive traffic to their Web sites.

A conceptual framework of the resource-based competitive advantage in e-commerce, which builds on the research of Barney (1991), is provided in Figure 1. A basic assumption of the RBVF is that resource bundles are heterogeneous across firms (Barney 1991). As Peteraf (1993) explains, resources that are superior to others in offering differential levels of efficiency enable more economical or better ways to satisfy customer needs. Furthermore, firms with superior resources will have earnings in excess of breakeven (Peteraf 1993) and are the primary sources of profitability (Grant 1991). In addition, the RBVF outlines the necessary requirements for a resource to be a source of advantage (Barney 1991). Other studies have demonstrated a direct relationship between the resources in the conceptual framework and performance (e.g., market orientation, Narver and Slater 1990). Therefore, the conceptual framework considers the direct effect of resources on Online Traffic.

¹ Number of unique visitors is different from Web site hits or page views, common terms referred to when discussing online traffic and which measure the number of files that are requested from a Web site. Unique visitors are measured according to their unique IP addresses, analogous to online fingerprints, and are counted only once no matter how many times they visit the site (webopedia.com, 2005).

The resources depicted are considered to be antecedents of online retailer traffic. Although the set of resources is not exhaustive, the focus is on those that might differentially influence Online Traffic of retailers. Thus far, the proposed relationships have yet to be examined and therefore deserve attention to enhance our understanding of the relationship between resources and online retailer traffic. Additionally, the elements of the framework have not been examined in an international context.

Figure 1: Conceptual Framework



This study proposes that brand strength, foreign market know-how, market orientation, and affiliate network size provide critical sources of advantage that retailers can leverage online. These resources have been demonstrated to be important in other contexts and have been indicated through in-depth interviews. *Brand strength* can help an online retailer position itself against the competition. Furthermore, a strong brand name can favorably distinguish a firm or its products from the competition and its offerings (Day and Wensley 1988). Brands have been the topic of a vast number of marketing studies, spanning many areas. Keller (1993) developed a model of customer-based brand equity. Keller (1999) outlines why brand equity should be managed over time and how brand meaning and brand revitalization reinforce brand equity.

Knowledge and learning about foreign markets are gaining interest from academic researchers. Mitra and Golder (2002) introduce near-market knowledge in their study of foreign market entry. The development of perceived knowledge, specifically tacit knowledge, was the

focus Pederson and Petersen (2003). Furthermore, the Web affords firms unparalleled opportunities for getting to know their customers in depth (Reichheld and Scheffer 2000).

Market orientation is one firm resource that firms can leverage online. The focus of a market-oriented firm is on creating and satisfying customers through continuous assessment of needs (Deshpandé and Farley 1996). Finally, *affiliates*² have become commonplace on Web sites and continue to grow in popularity. Moreover, each network is unique to the parent firm such that competing firms can not duplicate the network nor can they determine its membership. Affiliate networks are unique to the online marketplace and afford great opportunity for enhancing Web site traffic.

In the following paragraphs each resource will first be assessed using to the RBVF prescribed criteria of value, scarcity, inimitability, non-substitutability. Subsequently, the arguments concerning the relationship between the respective resource and *Online Traffic* will be developed and the hypotheses formulated.

Online Brand Strength. Online Brand Strength is defined as the associations existing and potential customers have about a brand. Brand associations can be broadly categorized as attributes, benefits, and attitudes (Keller 1993). According to RBVF, brand strength can be an important resource if it is valuable, rare, imperfectly imitable and non-substitutable. It is widely recognized that brands are one of the most valuable assets owned by firms (Aaker 1991) For instance, an executive at Coca-Cola explained that it would be more difficult to recover from deleting the Coca-Cola brand name and its associations from consumers' memories than from loss of its physical assets (Dawar 1998). Online brand strength can be used to exploit opportunities, for example, leverage the brand name in new markets or channels or extend it to a new product or category. Brands can also be used to defend against competitive attacks.

The multidimensionality of brand strength (i.e., attributes, benefits, attitudes) and its specificity makes it rare and imperfectly imitable. In addition, brands are complex resources that are organized around four perspectives: product (e.g., quality, attributes), organization (e.g.,

² An affiliate is a Web site that has a link to the focal online retailer's (i.e., the online retailer operating the affiliate program) Web site, has enrolled in the focal retailer's affiliate program, and earns a flat fee or commission on sales originating from its Web site.

organization attributes), persons (e.g., customer-brand relationships), and symbols (e.g., visual image, heritage) (Aaker and Joachimsthaler (2000)). The linkage of the various components of brand strength to the social complexity of the firm in turn hinders imitability. The multidimensionality, socially complex development and specificity of online brand strength also decrease the likelihood that other resources could substitute for a firm's unique brand. In summary, brand strength is a resource that meets the requirements of being a potential source of a performance advantage.

Aaker and Joachimsthaler (2000) acknowledge that the Web has had a major impact on brands, and strong brands will be those that best utilize the Web as a building tool. However, despite the attention brand-related issues have received, little research has been conducted in an e-commerce context. Treating brand strength as a source of advantage is especially valid in an e-commerce context, because the Web can communicate rich information about a brand and enhance the depth of the brand-customer relationship (Aaker and Joachimsthaler 2000). Strong brand-customer relationships are more likely to attract customers to the respective websites. Thus, it is expected that brand strength will be positively related to online traffic:

H₁: Online Brand Strength is positively related to Online Traffic.

Foreign Market Know-how. Foreign market know-how (FMK) is defined as the extent to which relevant individuals in an organization are perceived to have knowledge about foreign markets (Simonin 1997)³. Knowledge-based resources often emerge as specific skills, such as know-how (Miller and Shamsie 1996; Simonin 1997) and know-how has long been considered a valuable resource (Simonin 1997). FMK is an incremental process built on experiences that describes how activities are carried out (Kogut and Zander 1993). The incremental nature of FMK not only fits the rarity requirement, but also meets the third criterion of imperfect imitability. FMK is socially complex and causally ambiguous, similar to other forms of know-how such as collaborative know-how (cf., Simonin 1997). Know-how evolves over time, people, and markets. Because of this complexity, FMK would not be easily open to imitation by competitors. The fourth requirement, non-substitutability, is also satisfied by FMK. While firms

³ Foreign market know-how is distinct from foreign market experience which is defined as direct contact with, or participation in, a foreign market or foreign markets.

can duplicate the experience of competitors by participating in the same foreign markets or implementing similar strategies (e.g., adaptation of the marketing mix), FMK is less transparent and substitution would be a greater challenge.

Know-how was found to have a positive effect on performance in a different context. Specifically, Simonin (1997) examined the relationship between collaborative experience, know-how, and performance. Miller and Shamsie (1996) examined knowledge-based resources and performance in the film industry and found a significant relationship. However, knowing how to market in foreign markets is often overlooked by online firms. Many online companies have the misconception that having an online store that is accessible around the world means that sales will come in from around the world. However, online firms often discount the importance of, for example, culture and language and will thus have difficulties attracting online customers.

By leveraging know-how about foreign markets and formulating e-commerce strategies and internet presence accordingly, a firm will be more likely to attract foreign customers. Relative to offline business transactions, e-commerce typically involves greater physical distance between firms and their customers; therefore, it is important that firms consider the cultural and regulatory differences that exist across markets. Accommodating these differences can enhance the customer's online experience, such as reducing uncertainty. Thus, it is expected that foreign market know-how will have a positive impact on online traffic:

H2: Foreign market know-how is positively related to online traffic.

Market Orientation. Market orientation is defined as "the set of cross-functional processes and activities directed at creating and satisfying customers through continuous needs-assessment" (Deshpandé and Farley 1996). Market orientation (MO) has been conceptualized as an important firm resource in prior studies (e.g., Narver and Slater 1990). MO as a valuable resource is widely accepted by both practitioners and academics, evidenced by the vast attention it has received in both arenas. Although many firms may adopt a MO, it is unique processes within a firm that constitute it as rare resource. Moreover, MO is deeply embedded in a firm's culture and history and, consequently, socially complex (Deshpandé, Farley and Webster 1993). Finally, MO is often considered non-substitutable, in particular, if it allows the firm to formulate and implement strategies not simultaneously being implemented by other firms.

The Internet allows companies and customers to be linked at unparalleled levels. A company in Finland can locate a supplier in Argentina with just a few clicks of the mouse. Likewise, a person looking for a rare book can browse numerous Web sites across the globe within a short period of time. The Internet has moved the customer from a passive recipient to an active participant (Slywotzky 2000). In addition, the Internet is an information-rich medium that allows companies to track customers, their purchase histories, and preferences more easily than in traditional markets (Reichheld and Schefter 2000). The vast information afforded by the Internet offers companies' unprecedented opportunities for getting to know their customers (Reichheld and Schefter 2000). MO thus increases firms' abilities to address customers' needs, e.g., provide required information on the website or other services, and consequently facilitates attempts to attract customers to their websites. Consequently, it is expected that market orientation will have a positive affect on *Online Traffic*:

H3: Market Orientation is positively related to Online Traffic.

Affiliate Network Size. An affiliate is a Web site that has a link to the focal online retailer's (i.e., the online retailer operating the affiliate program) Web site, has enrolled in the program, and earns a fee or commission on sales originating from its Web site. Affiliate network size is defined as the number of affiliates belonging to an online retailer's affiliate program. Online retailers with larger networks have a greater market reach. An affiliate program is a form of revenue-sharing marketing strategy currently being used by retailers on the Web.

An affiliate network permits a firm to improve its efficiency since the level of investment relative to potential benefits of a network is quite modest. Without the network of affiliates, the online retailer would not be able to reach as many potential customers with the same level of investment or effort. Hence, affiliate network size is a valuable resource. Although many online retailers have adopted affiliate programs, relatively large networks not only prohibit competitors from acquiring the specific network but also are not be easily imitated. In addition, an affiliate network is a complex set of associations between the focal online retailer and individual Web sites, ranging from information-based sites to complementary retailer Web sites. As the size of an affiliate network grows, the more socially complex it becomes and the more it can be considered rare and imperfectly imitable. The nature of an affiliate network reduces the ability

of competitors to formulate and implement similar strategies based on different methods. Specifically, it would be extremely difficult for a competitor to develop the market reach similar to that of an online retailer that has an affiliate network without building their own network of online links; and as such substitutes are absent.

The relationship between affiliate network size and online retailer performance has not been examined empirically. However, evidence from the marketplace suggests that affiliate networks enable an online firm to acquire customers and advertise to potential customers it would not otherwise reach (Hoffman and Novak 2000). Based on the prevalence of affiliate programs and anecdotal evidence, a positive relationship between affiliate network size and *Online Traffic* is hypothesized.

H4: Affiliate network size is positively related to online traffic.

Foreign vs. U.S. firms. Although online retailing has experienced considerable growth worldwide, the U.S. still accounts for nearly 50% of the total (Budde 2003). Given the size of the U.S. market, many domestic online firms focus their attention on the domestic market. On the other hand, to capitalize on the size of the U.S. market and the level of online retail spending, foreign online firms are spending considerable resources on attracting U.S. consumers to their Web sites. To do so, foreign firms will have to be knowledgeable about foreign markets, in particular the U.S. market. These firms should invest in learning and understanding foreign markets. Thus, it is expected foreign market know-how will be more important to foreign firms.

H5: The relationship between foreign market know-how and online traffic will be stronger for foreign firms than for domestic (U.S.) firms.

Methodology

Analytic Induction Approach

To identify actual resources and skills of online retailers, the initial step in developing the framework was exploratory in nature in order to direct the model development. Practitioner input regarding the framework's relevance was considered critical considering the novel nature of this field of inquiry. Following an analytic induction approach (Deshpandé 1983, Manning 1982), a series of in-depth interviews with online retailers in the U.S., Canada, and Australia was

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performed. Addressed were managers responsible for their company's online retail operations. Next, previous research was also revisited narrow down the potential components of the framework. Finally, interviews were conducted with a CEO of an American advertising firm, which has clients competing online, and two U.S.-based Webmasters.

Quantitative Approach

The use of key informants to obtain quantitative data was proposed by Campbell (1955) given informants are in a position where they have knowledge about the research topic and are willing participants in the study. An organizational unit of analysis necessitates collecting information from individuals about a particular organization and its respective characteristics (Phillips 1981). Individual survey respondents play the role of key informants by providing information at the organizational level about characteristics of the organization rather than their own personal characteristics (Phillips 1981).

In this study, informants were selected based on Campbell's (1955) suggestions and as outlined by Phillips (1981). The top marketing or e-commerce decision makers within online retailers were chosen as the key informants based on their position within their respective firms and the interviews, discussed earlier, conducted with online retailers. These decision makers oversee the operations of the online retailing and marketing activities and were considered to be more appropriate than other individuals, such as Webmasters (cf. John and Reve 1982). In addition, the online retailers were based in markets that are similar in retail structure, Internet usage, and per capita income.

The procedure used to build the sample required identifying online retailers with headquarters in the English-speaking countries. The study was limited to countries with a substantial English-speaking population to control for the compound effects of language. Furthermore, concentrating on English was due to the prevalence of English-language public Web sites – nearly three-fourths offer textual content in English (O'Neill, Lavoie, and Bennett 2003). Besides identifying online retailers, individuals in top decision making positions likely to be knowledgeable about the phenomenon under study had to be identified at the online retailers.

The restrictions placed on the sample included (1) marketing or e-commerce decision maker, (2) headquartered in a predominantly English-speaking country, (3) Web site enables

completed online transactions (e.g., order and payment), (4) online retailer of physical products⁴. Given these restrictions the identification of retailers and key informants involved two different approaches. The first approach used a database of U.S. retailers while the second approach used a compiled list of U.S. and foreign headquartered online retailers. To increase generalizability, a variety of product categories were included (see Footnote 4).

Given the prevalence of sites in English and to eliminate the need to translate the survey, the online survey was in English. Specifically, retailers in the United States, Australia, Canada, Ireland, New Zealand, the United Kingdom, India, and Singapore generally have English language sites. Furthermore, the study centers on Web-related phenomena; therefore, the survey was presented online rather than in hardcopy.

The survey was pretested among five marketing decision-makers. Feedback gained from the pretest led to item, instruction, and format modifications. Based on the pretest and a review of the literature, existing measures that correspond conceptually to the constructs being investigated were used when possible. Adaptations of some measures were necessary to better suit the phenomena of the study.

The first mailing was sent to the decision makers at 1010 U.S. retailers and was narrowed to 927 retailers after removing the returned letters. The initial and subsequent mailings resulted in 128 responses, for an effective response rate of 13.8%. From the compiled, 672 online retailers were trimmed to 596 after removing the undeliverable pieces. The original and follow-up e-mail solicitations led to 67 responses from U.S.-based and foreign-based online retailers, resulting in an effective response rate of 11.2%. A total of 195 responses included 137 online retailers from the U.S. and 65 from other countries, for an overall response rate of 12.8%. In 21 cases, respondents completed all or most of the survey, yet failed to provide information about online traffic.

⁴ Online retailers also engage in the sale and distribution of digital products such as music and news. These products are excluded from the study to reduce the effects of the digitized delivery. The resulting categories include: Apparel & Accessories, Health and Beauty, Computer Related, Consumer Electronics, Home and Garden, Healthcare (not pharmaceuticals), Pet Related, Special Occasion, Sporting Goods, Auto and Marine, and Toys.

In this study, patterns of missing data were not evident in the data except for the question relating to online traffic. In cases where traffic data were missing, these cases were not included in the hypotheses tests. The cases with missing traffic data, however, were included in scale purification, measure validation, and group analyses. Where missing data were infrequent or nonrandom, the missing data were replaced by the mean as suggested by Hair, Anderson, Tatham, and Black (1998).

The procedures suggested by Armstrong and Overton (1977) were used to assess nonresponse. Responses from the first mailing to U.S. online retailers were compared to the responses of second mailing and the third mailing. Additionally, responses from the second mailing to U.S. online retailers were compared with third mailing responses. Since the sample procedure involved two methods, postal mail and e-mail, of contacting the target sample the responses from the different methods were compared. The groups were compared on firm (size, number of employees) and respondent (job title) characteristics using independent sample t-tests to check for equality of means. The results of independent sample t-tests did not show any significant differences on responses to questions pertaining to firm, demographic and respondent characteristics. Thus, response bias regarding survey procedure does not appear evident in this study's data response set.

Prior to measure validation it is important to ensure that the data are appropriate for factor analysis. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity (BTS) were examined using all initial items for each of the multi-item scales. The KMO for this study's data is 0.832 suggesting that the data are appropriate for factor analysis. The BTS for this study resulted in an approximate chi-square of 2786 with 2080 degrees of freedom and a 0.000 level of significance. Based on the KMO and BTS statistics, the data for this study appear appropriate for factor analysis.

Each of the multi-item scales was subjected to exploratory factor analysis. Where necessary, items were deleted in order for each scale to result in a one factor solution. For each measure the eigenvalues and scree plots demonstrated one factor was extracted from the data. Furthermore, the factor structures and correlation matrices were similar across the samples (U.S.,

international, and pooled) for each of the final scales. Thus, the dimensionality of the multi-item measures was assessed and based on the results, each measure appears to be unidimensional.

According to Gerbing and Anderson (1988), coefficient alpha is important in the assessment of reliability, especially when there is only one administration of a scale. Furthermore, coefficient alpha is considered to be a critical measure to assess the quality of a scale and measure of internal consistency (Churchill 1979). The results of the reliability analysis and the descriptive statistics for the multi-measures are provided in Table 1. Although there is not a standard cut-off value for coefficient alpha, Nunnally and Bernstein (1994) suggests values greater than .50 in exploratory studies and Hair et al. (1998) recommend .60. All coefficient alphas for the final multi-item scales were greater than 0.75, demonstrating acceptable levels of reliability. A minimum value of .50, as recommended Fornell and Larcker (1981), indicates that more than 50% of the variance is explained by the items in a scale. The values for AVE exceeded .50 in all cases. The multi-item scales demonstrate acceptable levels of reliability.

Table 1: Reliability Analysis and Scale Descriptives

Multi-Item Scales	Items	Mean	Std Dev	Alpha	CR		AVE	
					U.S. / Intl	U.S. / Intl	U.S. / Intl	U.S. / Intl
Online Brand Strength	5	4.63	1.43	.91	.91/.88	.68/.54		
Foreign Market Know-How	4	3.42	1.84	.83	.83/.78	.55/.51		
Market Orientation	7	5.45	1.26	.90	.90/.92	.60/.59		

To assess discriminant validity, the procedure outlined by Fornell and Larcker (1981) was followed by comparing the average variance extracted from each construct in a pair of constructs, to the squared correlation between the constructs. Discriminant validity, based on the Fornell and Larcker (1981) procedure, was demonstrated for each pair of constructs using the U.S. and international data.

For cross-national studies, Steenkamp and Baumgartner (1998) strongly recommend assessing measurement invariance in order to enhance the strength and generalizability of scales and conclusions of a study. Additionally, “the multigroup confirmatory factor analysis model represents the most powerful and versatile approach to testing for cross-national measurement invariance (Steenkamp and Baumgartner 1998, p. 78)”. Using Steenkamp and Baumgartner’s

(1998) hierarchical confirmatory factor analysis, the multi-item measures were evaluated for invariance. Specifically, data from the U.S. and international samples were analyzed concurrently to determine the level of equivalency that existed across the two samples. Based on the chi-square difference tests, partial equivalence was achieved for the Foreign Market Know-How (FMK) scale. Specifically, metric (invariant factor loadings) and factor variance equivalence was achieved (all p-values > .17). Full equivalence was established for Online Brand Strength (BSW) and Market Orientation (MO). Based on these results, the scales are appropriate to use across the countries included in this study.

Results

Online Traffic (OT), measured as the number of unique visitors, is a single-item measure. The results of the analyses that examined the effect of resources on OT for the U.S., international and pooled location samples are provided in Table 2. Each of the models are significant; Pooled - adjusted R² = .224 (F = 13.457; p ≤ .01); U.S. - adjusted R² = .162 (F = 6.717; p ≤ .01); International - adjusted R² = .314 (F = 7.183; p ≤ .01).

In each of the samples, Online Brand Strength is positively related to OT. Online Brand Strength in the Pooled sample yielded a $\beta = .365$ (p = .000), a $\beta = .331$ (p = .001) in the U.S. sample and a $\beta = .433$ (p = .002) in the International samples. Hypothesis 1 is supported for the Pooled (U.S. and International together), U.S., and international samples.

Table 2: Regression Results

Independent Variables		Pooled (n=174)	US (n=119)	Intl (n=55)
Online Brand Strength	H ₁ +	0.365 ***	0.331 ***	0.433 ***
Foreign Market Know-How	H ₂ +	0.179 **	0.155	0.265 **
Market Orientation	H ₃ +	-0.069	-0.068	-0.072
Affiliate Network Size	H ₄ +	0.141 **	0.118	0.154
Overall Model				
Adjusted R ²		0.224	0.162	0.314
F-statistic		13.457 ***	6.717 ***	7.183 ***
*** p ≤ 0.01 ** p ≤ 0.05 * p ≤ 0.10				

The second hypothesis predicts Foreign Market Know-how is positively related to OT. Foreign Market Know-how is positively related to OT in the Pooled sample. The β coefficient equals .179 (p = .017). Foreign Market Know-how is not significant in the U.S. sample ($\beta = .155$; p = .107). Yet it is significant in the International sample ($\beta = .265$; p = .033).

Therefore, H2 is not supported for the U.S. sample but is supported for the International sample and also when the locations are pooled (U.S. and International samples combined).

Hypothesis 3 predicts Market Orientation to be positively related to OT. MO is not significant in any of the samples (Pooled, U.S. or international). In the pooled sample, MO has a β of $-.069$ ($p = .357$). In the U.S. sample, the β coefficient for MO equals $-.068$ ($p = .464$). And, in the international sample the β coefficient equals $-.072$ ($p = .573$). Thus, H3 is not supported.

A positive relationship is predicted between Affiliate Network Size (ANS) and OT in Hypothesis 4. In the Pooled sample ANS is significant; the β coefficient equals $.141$ ($p = .043$). However, ANS is not significant in the U.S. or international samples (U.S.: $\beta = .118$, $p = .181$; International: $\beta = .154$, $p = .199$). Therefore, Hypothesis 4 is supported when the U.S. and international samples are pooled but it is not supported in the U.S. or international samples.

Hypothesis 5 predicts that foreign market know-how will be stronger for foreign firms than for U.S. firms. As shown in Table 2, foreign market know-how is significant in the international sample ($\beta=.265$; $p=.033$) and not significant in the U.S. sample ($\beta=.155$; $p=.107$).

Discussion

It was hypothesized that resources (Online Brand Strength, Foreign Market Know-how, Market Orientation, and Affiliate Network Size) have a positive impact on Online Traffic. Online Brand Strength (OBS) appears to be of primary importance in explaining online traffic, providing the most consistent predictive power across the samples. Based on the findings, it can be argued that firms with relatively stronger online brands, compared to those of their competitors, are more likely to have greater numbers of unique visitors to their Web site. Therefore, firms should focus on building their retail brand names in online markets, for example, investing in loyalty and online community programs. A study by Smith and Brynjolfsson (2001) found that online consumers use brand names as proxies for reliability in service quality and that online shoppers are willing to pay a premium for a brand name. Although brands have been the subject of many studies (c.f. Aaker and Joachimsthaler 2000), the role and impact of brands on the Internet deserves more attention.

The findings indicate a positive relationship between foreign market know-how and online traffic at both the pooled and international levels. This suggests that retailers who have

the wherewithal to market abroad are more likely to have a competitive advantage over firms that lack such know-how. Online retailers might consider hiring individuals with in-depth market knowledge and skills. Interestingly, foreign market know-how does not influence Web site traffic of U.S. online retailers. It may be that brand name is the primary driver of traffic.

The vast amount of information on the Internet and the intense competition requires online retailers to actively focus on, and respond to, market conditions to be successful. The lack of a positive relationship between market orientation and online traffic may suggest that market oriented companies focus more attention on other aspects of their online business (i.e., product offering, order fulfillment) that relate directly to customers rather than driving traffic to their sites. The antecedents for an *online* outcome variable, such as the Number of Unique Visitors, may differ from the antecedents of traditional firm outcomes.

Affiliate networks, although prominent in online markets, have received little attention in both conceptual and empirical research. The structure of affiliate networks (i.e., centrality) has been shown to vary by industry and that over time, affiliate networks generally get larger and denser (Park, Barnett, and Nam 2002). This study provides some evidence that affiliate networks can positively influence online traffic. Affiliate network size was used to capture the impact of an affiliate network on Web site traffic. Although the size of an affiliate network influenced traffic, size of an affiliate network is not necessarily meaningful in all cases. For example, an affiliate that has a large market reach or large number of existing customers is not the same as an affiliate that has a relatively smaller customer base. Thus, a different measure aimed at detecting different characteristics of affiliates' performance might provide additional insight. Specific attributes (e.g., size, performance, product category, and popularity) of affiliates may be important indicators of online traffic. Affiliate firms may provide an exclusive link to the focal firm or may display competing links. Moreover, an affiliate's Web site may include numerous links as part of various affiliate programs, which may have a crowding effect similar to noise level in advertising. Additionally, greater levels of competing ads have made it more difficult for firms to attract and hold the attention of consumers (Pieters, Warkop, and Wedel 2002). This intense competition for consumers' attention has led many advertisers to alter their strategies. Pieters et al. (2002) found that ad originality and familiarity attracted the

greatest attention to the advertised brand. Furthermore, noise level may go beyond the number of links on an affiliate's site to include the overall noise level of the site or even the Web in general. Hence, similar phenomena may occur online.

The sample was restricted to online retailers in primarily English speaking countries. The findings may not be generalized to online retailers in other countries. Future research should be conducted in different countries using different samples to address the issue of generalizability. The sample was limited to online retailers that sold physical products. A large proportion of online retailers sell digital products, such as software and music. Thus, the conclusions from this study do not apply to online retailers in categories involving digitized offerings. Future research could investigate the set of resources more likely to influence performance of online retailers with digital products and services, e.g., loans.

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